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Psychological Abstracts

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PSYCHOLOGICAL ABSTRACTS

VOLUME II, No. 9 SEPTEMBER, 1928

GENERAL

2350. **[Anon.] Theses and dissertations by Chinese students in America.** *Bull. No. 4, China Institute in America,* New York, 1928. Pp. 42.—A compiled record of the academic efforts and interests of Chinese students in the United States. Among the other subjects 32 theses in psychology are listed.—*W. R. Miles* (Stanford).

2351. **Auerbach, F. Beschreibung und Erklärung. Zweiter Teil: Anschauliche und abstrakte, exakte und statistische Beschreibung.** (Description and explanation. Part II: Intuitive and abstract, exact and statistical description.) *Scientia,* 1928, **43,** 73–80.—Intuition requires the use of images and is typified by geometry, whereas reasoning can take place with bare formulae and is typified by algebra. Our conceptions of matter, of the ion, electron, quanta, etc., are based on images drawn from the macrocosm, but relativity is not. In the physical sciences, certainty is being replaced more and more by probability and improbability. A true scientific explanation is really a description, under whatever form, intuitive or abstract, exact or statistical, it may be presented.—*R. G. Sherwood* (Stillwater, Minn.).

2352. **Berry, R. J. A. Brain and mind, or the nervous system of man.** New York: Macmillan, 1928. Pp. xii + 608.—Beginning with the statement, "If Psychology is to make any progress as a real science, it must be a department of biology" the author proceeds with an elaborate and extensive discussion of the nervous system, making use of "recent and intensive studies of structure and function." The rôle of the short interpolated internuncial neuron as a physical instrument of mind is especially stressed. "Consciousness, memory, speech, thought, and reason can only manifest themselves when there are a sufficiency of such neurons for the purpose." All human individuals are divided into three groups: (1) cerebral aments, (2) normal neuronics, individuals who constitute the vast majority, and (3) multi-neuronic, geniuses, "with more than their fair share of neurons." It is held that energy generated by any neuron will "infect the whole of that neuron" and be conducted from the cell body or generating station by the axon. The author holds that while the nature of nerve energy does not appear to be accurately known, its existence must be admitted, and that its force is in the substances known as Nissl bodies, which in their turn are products of the cell nucleus. It is stated that the sum of nerve energy differs in accordance with the number of neurons and the physiological condition of those neurons. The first 36 chapters, 478 pages, constitute an anatomy of the nervous system. In the latter part, deficient neuronic development, termed by the author amentia, is considered at length, and there are chapters dealing with its clinical diagnosis. This part of the work is linked up with physical measurements and intelligence tests.—*W. R. Miles* (Stanford).

2353. **Deshler, C., & Schroeder, H. A photoelectric cell photometer.** *Trans. Illum. Eng. Soc.,* 1928, **23,** 391–418.—A method of photometry which substitutes an "electrical eye" for the human eye has been developed by Deshler. The lamp whose lumens are to be measured is placed as usual in the sphere of an ordinary commercial spherical photometer. The integrated light of the lamp passes through a suitable test plate and filter, falls on the light-sensitive film which covers the interior surface of a photoelectric cell, and causes the film to

emit electrons. A suitable potential is placed across the cell and the resultant electron emission or current is measured by a galvanometer or micro-ammeter. When the cell is so constructed that the electron emission is proportional to the light, these meters become "lumen-meters." The first essential, therefore, of a direct-reading method as compared with a null method is exact proportionality. The wave-length sensitivities of photoelectric cells differ from one another and from the average human eye. Without a filter, therefore, the proportionality between the cell current and the light can be maintained only at the same wave-length. With the proper filter the proportionality can be maintained through a large range of wave-lengths.—*L. L. Sloan* (Bryn Mawr).

2354. **Driesch, H. Behaviorismus und Vitalismus.** (Behaviorism and vitalism.) Heidelberg: Carl Winters Universitätsbuchhandlung, 1927. Pp. 10. .80 M.—An attempt is made to show, in a brief way, the principal weaknesses of a material, behavioristic system and at the same time to show the merits of a vitalistic hypothesis. The author postulates a material system and summarizes in a brief way the principal characteristics of such a system. He grants such a system the possibilities of response to a stimulus, a different response to the same stimulus at a later time, modification of responses by past history, conditioned responses, and responses differing from those of an apparently like system (individual differences). He points out that such a system tends to remain in equilibrium and responds only when thrown out of equilibrium by external forces. The nature of equilibrium at any certain time depends upon the past history of the system, and is never the same from one time to another. He also points out the fact that such a system is unknown in the inorganic world. The principal things which he finds this type of system unable to include are learning through experience, learning through association, thought, and the setting of new goals. A behavioristic system, he believes, has no place for such words as mind, meaning, understanding, ask, answer, doubt, etc., and therefore an introspective system has a much wider scope.—*J. R. Liggett* (California at Los Angeles).

2355. **Goldstein, K. Über den gegenseitigen Einfluss motorischer und sensorischer Vorgänge.** (On the mutual influence of motor and sensory processes.) *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 116–118.—Motor and sensory processes cannot be considered as independent phenomena which in some fashion are anatomically or psychologically linked up. "Every sensory as well as every motor process is only the expression of a definite *Gestaltung* of the total organism, which according to our standpoint may be described either as a sensory or as a motor process." Goldstein demonstrates this assumption by reference to pathological material. He shows that the motility as well as the conscious sensory processes of a patient may be influenced by motor processes of which the patient is not even aware.—*H. Klüver* (Columbia).

2356. **Harrison, T. H. The use of photo-electric cells for the photometry of electric lamps.** *Trans. Opt. Soc.*, 1926–1927, **28**, 195–209 (discussion 209–213).—A description is given of apparatus and experiments designed for giving the highest accuracy and precision in the photometry of electric lamps, using photo-electric cells. Although the methods adopted are not novel, yet every care has been taken to obtain the highest sensitivity in the photo-electric current measuring apparatus and to maintain the lamps at a steady accurately known voltage. It is claimed, therefore, that the results are useful in showing the maximum capabilities of photo-electric cells when used in the usual manner with a sensitive electrometer or electroscope. The actual results may be briefly stated as follows:

	Photo-electric per cent.		Visual per cent.	
Accuracy of mean spherical color matching	0.1	voltage	0.5	voltage
Accuracy of mean spherical intensity measurements	0.2	intensity	0.4	intensity
Accuracy of directional color matching	0.1	voltage	0.5	voltage
Accuracy of directional intensity measurements	0.15	intensity	0.25	intensity

A discussion is given of the sources of error to be expected, of the method by which they may be avoided, and of the computation of the accuracy of the results.—*L. L. Sloan* (Bryn Mawr).

2357. **Heymans, G. Typologische und statistische Methoden innerhalt der speziellen Psychologie.** (Typological and statistical methods in special psychology.) *Scientia*, 1927, **42**, 77–84.—The typological method of Jaensch for studying individual types is subject to the errors of prejudice in selection and partiality of material, but is good for demonstration purposes. The statistical method is more objective and eliminates the errors of the former, giving results of almost perfect certainty.—*R. G. Sherwood* (Stillwater, Minn.).

2358. **Hollingworth, H. L. Sensuous determinants of psychological attitude.** *Psychol. Rev.*, 1928, **35**, 93–117.—Interoceptists (introspectionists) and exteroceptists (behaviorists) both suffer from sensuous bias: the former reduce visual structure to visceral quality; the passion of the latter is vision, since smells, tastes, pains, and thermal, tactile, kinaesthetic and affective qualities receive no consideration at their hands. A psychology without sensuous bias on the one hand or non-sensuous bias (e.g., as seen in the scholastics and Brunswig, Moore and Spearman) on the other recognizes all events (private as well as public) as belonging to the psychophysical continuum wherein the laws of redintegration hold sway. In the light of the redintegrative principle psychological terms like perception, memory, reasoning, motivation, intelligence, observation, judgment, belief, are defined. The author says that the same principle of description and explanation applies to such apparently remote phenomena as reading and hysteria, thinking and optical illusions, syllogisms and space perception, animal training and aesthetics, patriotism and the scarecrow, primitive magic and conditioned reflex.—*H. Helson* (Kansas).

2359. **Kuntze, F. Von den neuen Denkmitteln der Philosophie. In sechs Briefen an den Einzelnen und an die philosophischen Arbeitsgemeinschaften. 1. Heft: Präliminarien. Die Elemente des Seins, des Geschehens, des Gedankens in Chemie, Physik, Mathematik.** (New concepts in philosophy. Six letters to individuals and to philosophical work communities. I. Preliminaries. The elements of being, becoming, and thought in chemistry, physics, and mathematics.) Heidelberg: Winter, 1927. Pp. 68. Rm. 2.—Kuntze's purpose is to do away with those difficulties of understanding which are a matter of changing style. He is intent on improving the habits of thinking of the younger generation. Discussion of peculiarities of style is useless, and historical discussions are of value only if the question is always put: Why (for instance) has Plato said this? One should only describe processes, start with individual sciences; general theories should follow, not precede, division (disjunction). The strongly practical purpose of the enterprise is shown by the directions for exercises as well as by the suggestions for a university course, taking into consideration the relevant change of style. A too strong connection with the past makes it difficult to understand the new, in which especially causality seems to appear as an anthropological makeshift. Difficulties show themselves, e.g., as regards hormones which operate through a definite form which they impart or contain; or in his-

tory in which any tendency towards form (*Formwille*) may occur. The author shows with the help of chemistry how certain free structures may present themselves to the human mind, and thus the material substratum becomes a matter of indifference.—*A. Römer* (Leipzig).

2360. **Little, W. F., & Horn, C. E. Results of practical experiences in photoelectric photometry.** *Trans. Illum. Eng. Soc.*, 1928, **23**, 419–427.—It has been found practicable at the Electrical Testing Laboratories to substitute measurements with photoelectric cells for visual observations in several branches of photometry. In conjunction with an integrating sphere they may be employed to determine the candle powers of incandescent lamps. They may be used to obtain data on the seasoning curves and the candle power distribution curves of such lamps. They may be used in making spectrophotometric measurements.—*L. L. Sloan* (Bryn Mawr).

2361. **Ogden, R. M. The *Gestalt* hypothesis.** *Psychol. Rev.*, 1928, **35**, 136–141.—A reply to Mencken's assertion that psychology is in a whirl in which many are now turning to the *Gestalt* revelation. The author states that it is the purpose of this paper to support the claims of what Mencken calls the *Gestalt* revelation as a means of reconciliation for the opposite views and results of introspectionists, functionalists, behaviorists, and other psychologists. This is done by a discussion of the point of departure of the newer theories, their universal applicability, and their stimulating character.—*H. Helson* (Kansas).

2362. **Poppelreuter, W. Abgrenzung eines Seelensystems von den bloss nervösen Mechanismen?** (Separation of a psychic system from mere nervous mechanisms?) *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 152.—The investigations especially on visual defects after cerebral lesions suggest that the psychic system must be considered as the relatively small terminal in a hierarchy of recording systems. Most of what we consider to be the function of a psychic mechanism is done by "lower, mere physiological mechanisms."—*H. Klüver* (Columbia).

2363. **Rignano, E. The psychological theory of form.** *Psychol. Rev.*, 1928, **35**, 118–135.—Configurational psychology is criticized on the following points: no evidence is cited to support the basic theories; sensations possess qualitative autonomy; the configurationists have failed in their attempt to reverse the viewpoint of associationism; satisfaction and dissatisfaction must be regarded as the integrating mechanisms, which the configurationists do not explain quite clearly; the term *form* has many ambiguities, due to the confusion by the configurationists of concept with form. Some merits of configurationism are pointed out: recognition of organizing and synthetic processes; an attempt at placing the problem of physiological correlation with mental order in the foreground; the arousal in all lands of a new zeal for research. The author makes no references to the literature except to his own works.—*H. Helson* (Kansas).

2364. **Schaub, E. L. [Ed.]. Philosophy today: essays on recent developments in the field of philosophy.** Chicago: Open Court, 1928. Pp. x + 609. $3.25.—The present volume is a collection of essays on contemporary philosophy by writers of various nationalities. There are eight articles on English and American philosophy, ten on French, nine on German, and one each on Russian, Scandinavian, and South American philosophy. Among the articles on French philosophy is one by Piaget on psychology in which the views of Delacroix, Paulhan, Claparède, Janet, Lévy-Bruhl, and others, are summarized. German psychology of today is reviewed by Wenzl, of Munich. Experimental psychology and its applications, *Gestalt* psychology, intuitive (*verstehende*) psychology and the investigation of personality, psychoanalysis and individual psychology, comparative psychology, and theoretical metaphysical psychology are treated in considerable detail.—*C. C. Pratt* (Harvard).

2365. **Schlör, W. Zwischen belebter und unbelebter Materie.** (Between animate and inanimate matter.) *Scientia*, 1928, **43**, 237–248.—A contribution to the solution of the mechanistic-vitalistic controversy by compromise. The question of spontaneous generation is reopened by the bacteriological studies of d'Herelle, subjected to the method of Bechhold for increasing visibility. The gap between the organic and the inorganic is to be filled by researches made possible by Bechhold and by the philosophy of "energetic vitalism" of Rignano. —*R. G. Sherwood* (Stillwater, Minn.).

2366. **Schütz, A. Charakterologia és Aristotelesi metafizika.** (Characterology and Aristotelian metaphysics.) [*Proc. 2d Sec. Roy. Hungarian Acad. Sci.*], 1927, 1–73.—Really fruitful characterological investigations cannot be one-sidely psychiatric, biological, philosophical or psychological, but must enter into all problems of characterological phenomenology. The content of theoretical characterology includes the ontological, the characterognostic, the characteragogic, the characterographic and the general characterological problem. But in order to issue successfully from its present difficult position, characterology needs also philosophical treatment. For characterology begins and ends in metaphysics, and every one of its fundamental problems is inseparably entwined with metaphysical elements. Therefore it can never become a purely empirical science. The author goes on to treat in detail the ontological, the characterological, the characterogenic and the semasiological problem of characterology, and throughout this treatment he aims to show how these open into metaphysical problems. In the second part he comes to the conclusion that the Aristotelian-Thomistic principle of individuation fits excellently the current conceptions regarding the relation of character to body structure and bodily functions, and, finally, that the Aristotelian anthropology furnishes a basis for a satisfactory theory of characterological knowledge and also for that unity of the mental life which is a prerequisite for a science of characterology.—*A. Juhász* (Budapest).

2367. **Semelaigne, R. Arnaud (François-Léon).** *Ann. méd.-psychol.*, 1927, **85**, II, 131–139.—A brief but quite complete biography of Arnaud by a colleague. The account includes his education, professional training and a résumé of the activities of his career. A two-page bibliography of his principal works is included.—*O. W. Richards* (Clark).

2368. **Sharp, C. H., & Smith, H. A. Further developments in photoelectric photometers.** *Trans. Illum. Eng. Soc.*, 1928, **23**, 428–439.—This paper summarizes the progress which has been made in developing photoelectric photometers at the Electric Testing Laboratories. Four separate systems are described, all of which have been given practical application and have shown their adaptability to commercial photometry.—*L. L. Sloan* (Bryn Mawr).

2369. **Sommer, R. Nachprüfung der elektrodiagnostischen Methoden von Dr. Rahner und Dr. Bisski.** (Examination of the electrodiagnostic methods of Dr. Rahner and Dr. Bisski.) *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 167–169.—In checking up the electrodiagnostic methods of Rahner and Bisski with a specially devised apparatus it was found that the transmissivity of the skin of the hand for alternating current varies considerably at different places. The transmissivity depends not only on the skin but also on the underlying parts. It also varies with the pressure with which the electrode is applied. An increase in current does not necessarily elicit a stronger sensation in the subject. A thorough examination of the skin of the whole body as to the transmission values for alternating current is considered a prerequisite for an appraisal of Bisski's psychodiagnostic claims.—*H. Klüver* (Columbia).

2370. **Störring, G. Zur Frage der geisteswissenschaftlichen und verstehenden Psychologie.** (Concerning the question of cultural science psychology and understanding psychology.) *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 173–

179.—Störring seeks to show that the objections raised by Spranger against natural science psychology are ill-founded and that a "method" of understanding psychology (*verstehende Psychologie*) as conceived by Jaspers does not exist.—*H. Klüver* (Columbia).

2371. **Taylor, A. H. Standardization of methods of heterochromatic photometry.** *Trans. Illum. Eng. Soc.*, 1928, **23**, 361–373 (discussion 374–382).—As in previous papers by this author (see I: 768), comparisons are made between the transmissions of colored filters determined (1) by means of a flicker photometer, and (2) by computation from spectrophotometric and standard visibility data. The filters ranged in color from a saturated purplish blue to a saturated red. The procedure used in determining the transmissions by the first method was as follows: Measurements were made by nine observers on a flicker photometer having a two-degree comparison field and an illuminated surrounding field. The brightness of the latter was maintained approximately equal to that of the comparison field. The intensity levels at which the determinations were made were between 0.8 and 1 f.c. in the case of the purple-blue filter and were greater than 5 f.c. in all other cases. The relative brightness sensitivities for yellow and blue were determined for each of the observers by means of the Ives test solutions, and the results used in the manner previously described by Taylor to correct the photometric determinations to correspond to those of an observer of standard sensitivity. When the computed and observed transmission values are compared, it is found that, for 9 of the 13 filters, the differences in the two sets of determinations are within 2%. The computed and observed transmissions of three red filters differ by approximately 6%, and those of the purplish blue filter by 31%. The disagreement in the latter case is attributed to the uncertainty of the standard visibility data in the extreme blue.—*L. L. Sloan* (Bryn Mawr).

2372. **Wickham, H. The misbehaviorists.** New York: Dial, 1928. Pp. 294. $3.50.—The sub-title, *Pseudo-Science and the Modern Temper*, gives the keynote to the author's analysis of the points of view represented by the following writers: Watson, McDougall, Freud, A. E. Wiggam, Lewis Browne, Dorsey, and Durant. The book is devoted to a defense of dualism and the freedom of the will. Use is made of R. S. Lillie's paper on *Physical Indeterminism and Vital Action, Science*, 1927, in support of the thesis that determinism is applicable only to mass action on the basis of statistical regularity. Individual phenomena are unpredictable. "It was group action observed among atoms which gave rise to the formulation of that law [the law of conservation]. Individuals behave capriciously, obeying the laws of their unique natures, laws known only to God." Man's body is a mass of particles, "but it is so formed as to be controlled, in so far as its movements are voluntary, by an individual self whose inner essence is simple."—*W. S. Hunter* (Clark).

2373. **Wirth, W. Demonstration eines neuen Apparates zur Messung der ersten Phase des negativen Nachbildes.** (Demonstration of a new apparatus for the measurement of the first phase of the negative after-image.) *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 190–191.—Wirth points out the various advantages of this new apparatus, the exact description of which will be published in the *Arch. f. d. ges. Psychol.*—*H. Klüver* (Columbia).

[See also abstracts 2486, 2487, 2546, 2579, 2616, 2640.]

SENSATION AND PERCEPTION

2374. **Ahlgren, G. On the oxidation mechanism of the crystalline lens.** *Acta Ophth.*, 1927, **5**, 1–22.—Like all tissues in the organism, the lens of the eye

must also have its metabolism in order to retain its vital properties—in this case principally translucency and elasticity. We have had, so far, a very limited knowledge of this subject, which is of great importance for solving, among others, the cataract problem. It is only quite recently that the oxidation processes in the crystalline lens have been subject to investigation, rendered possible by the elaboration of satisfactory methods for the study of tissue metabolism in general. The writer relates about 20 experiments with Thunberg's methylene blue method (mb-method) and sums up his general findings in four points, one of which seems to indicate that the metabolism in the lens to a certain extent follows a different path from that of muscles and other tissues. Tables; English, German, French and Italian references.—*M. L. Reymert* (Wittenberg).

2375. **Allen, F., & Macdonald, P. A. The sensations of temperature, pain, and pressure.** *Quar. J. Exper. Physiol.*, 1927, **16**, 321–332.—By a study of sensation, using the critical frequency of interruption, it is found that there is a striking similarity in the behavior of the nervous actions involved in the various senses. All such actions are in general conformity with the "Porter equation." —*L. Carmichael* (Brown).

2376. **Almack, M. R. A quantitative study of chromatic adaptation.** *Psychol. Monog.*, 1928, **38**, No. 2. Pp. 118.—An investigation of the selectiveness of visual response to the time of exposure and state of adaptation. In order to study so-called adaptation, or loss of sensitivity, it was necessary to use exposures of longer duration than are required for sensations to reach their maximal value. The stimuli were filtered spectrum lights, and at the end of each fatigue period the threshold of the light used to induce the fatigue was determined. Results show that for lights made equal at 12.5, 25, and 40 m.c., the sensitivity of the non-fatigued eye from greatest to least is in the order, yellow, green, blue, red. Sensitivity decreases rapidly at first. In a fatigue period of five minutes the order of ranking for the four colors changes, but it is the same for the initial and final sensitivity. The difference in sensitivity to yellow, green, and blue is decreased by increasing the length of exposure, and the difference in sensitivity to these colors and to red is increased by increase of length of exposure. When lights are equalized as to the saturation of the color sensations, the rate of adaptation to the colors is unequal. The order of ranking for the colors in rate of adaptation is different when they are equalized in saturation and equalized in brightness. When lights are made equal radiometrically, loss of sensitivity varies with wave-length. Loss of sensitivity from adaptation is a function of wave-length, intensity, time of exposure, and brightness adaptation. Saturation and brightness are factors to the extent that they are functions of physical intensity. The adaptation curve differs from a typical fatigue curve. The rate of adaptation seems to sustain a direct relation to the condition of sensitivity of the retina.—*F. A. C. Perrin* (Texas).

2377. **Brown, A. L. A case substantiating the relaxation of accommodation.** *Amer. J. Ophth.*, 1928, **11**, 382–385.—Recent discussions of the theory of accommodation lean toward the view that when the ciliary body contracts the main body of the muscle moves forward and releases its tension on the main mass of the zonular fibers. The writer describes a patient in whom the iris had been removed from the nasal portion of both eyes twenty years before. Nuclear lens opacities facilitated observation of lenticular movement. Accommodation was under voluntary control. By oblique illumination the anterior surface of the lens could be seen moving forward during accommodation, while by direct observation the equator of the lens was seen to become more smooth. The insertion of the zonular fibers in the anterior capsule of the lens was imperceptible during near vision, but crenations appeared at the insertion of the fibers during distant vision, as when the skin is lifted by pulling the hairs on the back of the

hand. The reactions to eserin and atropin were, in exaggerated form, those occurring in near and distant vision, respectively. This supports the Helmholtz theory of accommodation.—*C. W. Darrow* (Institute for Juvenile Research).

2378. **Emsley, H. H. Irregular astigmatism of the eye: effect of correcting lenses.** *Trans. Opt. Soc.*, 1925–1926, **27,** 28–42.—A grating test object consisting of a series of parallel white lines on a black surface is used to test acuity of the eye successively in a number of different meridians. The data indicate that the acuity varies in an irregular manner from meridian to meridian, a result which is attributed to the presence of irregular astigmatism. In a study of the effect of different degrees of accommodation it is found that changes in the strength of the lens produce a redistribution of the acuity in the different meridians. (See also II: 2382.)—*L. L. Sloan* (Bryn Mawr).

2379. **Favory, A. A propos du scotome annulaire.** (Concerning annular scotoma.) *Clin. opht.*, 1928, **17,** 3–8.—Injuries to the optic nerve or to optic fibers at the level of the retina are more likely to produce annular scotoma than lesions of the choroid, affecting circulation. Results may be explained by the theory of Bunge, who distinguished a central, a peripheral, and an intermediary bundle of fibers in the optic nerve. Injury to the first produces central scotoma, to the second causes retraction of the visual field, and to the third occasions the annular scotoma described in this paper. Four figures.—*C. W. Darrow* (Institute for Juvenile Research).

2380. **Focht, M. A theory of simultaneous color-contrast.** *Psychol. Rev.*, 1928, **35,** 87–91.—The hypothesis is advanced to explain simultaneous color-contrast that unless spectral white light is mixed with the colored light from any surface, that surface will show no simultaneous color-contrast. Experimental evidence obtained by the author is brought in to support her theory.—*H. Helson* (Kansas).

2381. **Funaishi, S. Über die falsche Lichtlokalisation bei geschlossenen Lidern sowie über das subjektive Zyklopenauge.** (On the erroneous localization of light seen through the closed lids, and the subjective cyclopean eye.) *Graefes Arch. f. Ophth.*, 1927, **119,** 227–234.—When the eyes are closed and light is thrown upon the closed lids of one eye, the diffuse glow is experienced as if coming from above and from the temporal side. The explanation is found in the fact that the localization is made from the standpoint of a cyclopean eye, which is not situated at the midpoint of the line joining the actual eyes, but in the region of the head-neck joint. When the position of the lids with respect to the cyclopean eye is changed by turning or inclining the head, the apparent position of the light is appropriately changed. A number of experiments are described which demonstrate the functioning of the cyclopean eye in monocular as well as binocular vision, and which establish its apparent locus.—*D. McL. Purdy* (California).

2382. **Hamblin, J. R., & Winser, T. H. On the resolution of gratings by the astigmatic eye.** *Trans. Opt. Soc.*, 1927–1928, **29,** 28–42.—A continuation of an investigation by Emsley (see II: 2378). In this investigation the irregular curve representing the variation of grating acuity from meridian to meridian was found to be of the same general form in all astigmatic eyes. The close similarity of the acuity curves for all the eyes tested made it seem improbable that true irregular astigmatism was being recorded. Experiments were therefore made with a model eye having a known regular astigmatism. The photographed images of a grating placed in different meridians were studied, and similar irregularities in the clearness of the image in the different meridians were found. These are shown to be due to the phenomenon of false resolution well known to microscopists. When the blurred width of a bright line is so great that it overlaps considerably the adjacent bright line, the sum of the two intensities gives the

effect of a bright line midway between the lines considered and results in a spurious effect of resolution. The effect becomes particularly noticeable in the presence of astigmatism, giving the appearance of marked irregularities in the resolution of various meridians, whereas the resolution actually varies in a regular way between the best and worst meridians which are perpendicular to one another.—*L. L. Sloan* (Bryn Mawr).

2383. **Jacoby, W. W. Vision—its relation to efficiency.** *Amer. J. Ophth.*, 1928, **11**, 385.—Visual acuity is shown to average highest in those occupations requiring the finest optical adjustments. In the case of employes doing fine work an average of 20% improvement in efficiency followed the correction of visual defects.—*C. W. Darrow* (Institute for Juvenile Research).

2384. **Krauss, St. Wahrnehmungsanalyse der Beleuchtung.** (Analysis of the perception of illumination.) *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 133–136.—Krauss considers the phenomenology of illumination in its bearing on a "general duplicity-theory" which is to take the place of the special theories of von Kries and Bühler.—*H. Klüver* (Columbia).

2385. **Langlands, N. M. S. Contributions to the theory of stereoscopic vision.** *Trans. Opt. Soc.*, 1926–1927, **28**, 83–99 (discussion 99–103).—A critical discussion is given of the various explanations of (1) the visual acuity of the eye or the power of the eye to resolve two points, (2) the vernier acuity or ability to distinguish when two vertical lines are continuous, and (3) the binocular acuity or binocular depth perception. An electron theory is proposed to explain the various phenomena of visual, vernier, and binocular acuity.—*L. L. Sloan* (Bryn Mawr).

2386. **Langlands, N. M. S. Experiments on binocular vision.** *Trans. Opt. Soc.*, 1926–1927, **28**, 45–78 (discussion 78–82).—This paper gives data on binocular acuity or the minimum resolvable difference in depth, measured in terms of the smallest difference in binocular angle which can be discriminated. The effects on binocular acuity of varying the intensity of illumination, the time of exposure, and the size of stimulus are considered, and the relation between binocular acuity and form-sense is discussed.—*L. L. Sloan* (Bryn Mawr).

2387. **Leiri, F. Über die Wahrnehmung während Augenbewegungen.** (On perception during eye-movements.) *Graefes Arch. f. Ophth.*, 1927, **119**, 711–718.—The visual field appears to be at rest if the eyes and the surrounding objects are at rest in relation to each other. A movement on the retina of the image of the surroundings, provided it is not too rapid, always produces a perception that the surroundings are in motion—a perception which is illusory if due to eye-movement. But if the eye-movement is of the rapid type that occurs in nystagmus and in changes of fixation, it does not usually produce an apparent movement of the field, for the reason that no visual impressions enter consciousness during the period of eye-movement. However, this rule is not universally true; four observations are here described which demonstrate that rapid eye-movements are sometimes accompanied by visual perception. In all these cases foveal vision proper was not present—the observation was made either in a dark room or in the absence of central reference-points. This suggests that in ordinary circumstances perception fails because the strong foveal impressions received when the eye is at rest or moving at moderate speed prevent the visual impressions from reaching consciousness during rapid eye-movements. The author agrees with E. B. Holt in believing that "central anaesthesia" generally takes place during these movements, but disagrees as to its causation; Holt ascribed the inhibition to the eye-movements themselves. 19 references.—*D. McL. Purdy* (California).

2388. **Leiri, F. Über optokinetisch hervorgerufene visuelle Täuschungen.** (On optokinetically produced visual illusions.) *Graefes Arch. f. Ophth.*, 1927, **119**, 719–732.—The author discriminates between after-images of movement and visual illusions which are after-effects of moving stimuli. The former are akin to ordinary after-images; they are best seen with closed eyes, while the latter are best seen when one fixates an object with pronounced lines. Leiri discusses the theory of two well-known movement-illusions: (1) Purkinje first observed that when one watches a succession of moving objects, or a stream of water, for a considerable time, and then turns his gaze on objects at rest, these objects will appear to move in the opposite direction. We may seek an explanation in the latent after-nystagmus which follows the cessation of movement (see J. Ohm, II: 623). The eyes have a tendency to move in the direction in which the stimulus was going; a voluntary innervation of the eye-muscles in the opposite sense is necessary in order to keep the eyes at rest. But we know from observations of persons with paralyzed eye-muscles that when an eye-movement is intended and the eyes nevertheless remain stationary, the object regarded appears to move in the direction in which the eye would normally have moved. In this fashion we can explain apparent movement in the fovea. But suppose we arrange stimulus-conditions so that there is a movement in one direction on the left side of the fixation-point, and in the opposite direction on the right side. There will now be no after-movement in the center of the field, but there will be opposite after-movements on the two sides of the periphery. It thus appears that apparent movement in the periphery is independent of the innervation of the eye-muscles and is a more direct effect of the moving stimulus. (2) Plateau's phenomenon, the after-effect of a rotating spiral, can be explained thus: When one observes circles which are being concentrically enlarged or diminished, their retinal images are undergoing a like change. Under ordinary circumstances, such a change in the retinal image of an object occurs only when the object is approaching or receding. These changes in the image therefore reflexly increase or diminish the accommodation of the eye. The observer must voluntarily innervate the mechanism of accommodation in the opposite sense in order to compensate for this reflex effect. When rotation ceases, the stimulus for the reflex vanishes, and the voluntary innervation will now produce its own effect. If one has been observing expanding circles, accommodation will now be increased and micropsia will take place, just as in the atropinized eye. Objects in the visual field therefore become smaller and at the same time recede. If, on the other hand, one has watched contracting circles, one experiences an opposite effect. 16 references.—*D. McL. Purdy* (California).

2389. **Lutz, A. Über binasale Hemianopsie. Eine vergleichende Zusammenstellung von 84 Mitteilungen in der Literatur und Beschreibung zweier eigener Beobachtungen.** (On binasal hemianopsia. A comparative review of 84 reports in the literature and a description of two cases observed by the author.) *Graefes Arch. f. Ophth.*, 1927, **119**, 423–487.—*D. McL. Purdy* (California).

2390. **McAuliffe, G. B. The senile ear.** *Med. J. & Rec.*, 1928, **7**, 358–359.—Probably due to chronic fatigue of the ear—the sense organ uniquely unprotectable against excessive stimulation—the aged suffer more often from deafness than from any other sensory defect, and no sense organ is so structurally or functionally impaired in old age as is the ear. Degenerative changes in the external meatus, an excessive growth of hair and impacted cerumen, alterations in the structure of the eustachian tube, middle ear disease, as well as degeneration of the receptor apparatus are common. Arteriosclerosis causing tinnitus, cardiac disease, atheromatous deposits, and anemia of the labyrinth serve to initiate and accentuate senile deafness. Diminished bone conduction may arise from nerve deafness, changes in the mineral constituents of the bone, lessened blood supply,

and chronic relaxation of the ear. Besides peripheral changes, there is a psychical change—a weakened attention to auditory stimuli. Old people often become misoneistic, they suffer from "mental claustration" and "cerebral obnubilation." Gray and Manasse furnish data on the locus of the difficulty in the minute structures of the ear. Three measures for relief are mentioned: (1) a double bulb Politzer bag by which the eustachian tube may be exercised, (2) administrations of strychnine and doses of iodide of potassium to aid circulation, and (3) aural rest in sound-proof rooms, which is advised especially in cases of inflammatory disease of the ear.—*R. C. Givler* (Tufts).

2391. **Newman, M. H. A. Mr. Russell's "Causal theory of perceptions."** *Mind*, 1928, **37**, 137–148.—*H. Helson* (Kansas).

2392. **Ohm, J. Zur Augenzitternkunde. XI. Mitteilung. Der optische Drehnystagmus bei rhinogener Neuritis retrobulbaris.** (On the twitching movements of the eyes. Part XI. Optical nystagmus accompanying rhinogenic neuritis retrobulbaris.) *Graefes Arch. f. Ophth.*, 1927, **119**, 681–693.—*D. McL. Purdy* (California).

2393. **Saidullah, —. Experimentelle Untersuchungen über den Geschmacksinn mit besonderer Berücksichtigung des Weber-Fechnerschen Gesetzes.** (Experimental researches on the sense of taste, with particular reference to the Weber-Fechner law.) *Arch. f. d. ges. Psychol.*, 1927, **60**, 457–484.—Using NaCl solutions varying in concentration from 0.4 to 18%, the author found Weber's law to hold, the relative differential threshold being about 1/7. The finding of Folor and Happisch, that the threshold for increase of concentration is less than that for decrease, was not confirmed by the author's experiments. As the concentration is increased from 0.4 to 18%, the feeling-tone of the taste passes through the following stages: unpleasantness, indifference, pleasantness, indifference, unpleasantness. The critical points depend on the temperature of the solution. To some of the observers very weak NaCl solutions tasted sweet. Most of the observers experienced very strong solutions as salty + bitter; the others experienced them as salty + bitter + sour. 30 references.—*D. McL. Purdy* (California).

2394. **Sharp, W. L. The floating-finger illusion.** *Psychol. Rev.*, 1928, **35**, 171–173.—The method is presented for getting a rather novel illusion in binocular vision. *Modus operandi* and the way the illusion appears are given in diagrams.—*H. Helson* (Kansas).

2395. **Sloan, L. L. The effect of intensity of light, state of adaptation of the eye, and size of photometric field on the visibility curve: a study of the Purkinje phenomenon.** *Psychol. Monog.*, 1928, **38**, No. 1. Pp. 87.—Visibility curves were obtained based on nine to twelve intensities which ranged from 75 m.c. to near threshold values. At each intensity measurements were made for foveal and extrafoveal size of field, and for light and dark adaptation. Filtered spectral lights were used, and their energies were measured by a bismuth-silver thermopile and a special Thompson galvanometer. Among other effects of changes in intensity are the following: the visibility curve changes in shape; the reverse of the Purkinje effect is seen in a decrease of intensity between 75 and 1 or 2 m.c.; the visibility curve changes with both light and dark adaptation and with the size of the field. A typical Purkinje effect is produced with a change from light to dark adaptation when the visibility curves for the same intensity and size of field are compared. Visibility curves determined at the same level of intensity and under the same conditions of adaptation differ in shape when determined with foveal and extra-foveal sizes of stimulus field.—*F. A. C. Perrin* (Texas).

2396. **Spindler, H. Influence de la perte d'un oeil sur la fonction visuelle, et ses conséquences au point de vue de la capacité de travail.** (Influence of

the loss of an eye on the visual function and its consequences from the point of view of capacity for work.) *Clin. opht.*, 1928, **17**, 18–22.—The author estimates that due to diminution of the "energy of vision" and other causes a person is incapacitated 20% by the loss of an eye.—*C. W. Darrow* (Institute for Juvenile Research).

2397. **Swaine, W. The relation of visual acuity and accommodation to ametropia.** *Trans. Opt. Soc.*, 1925–1926, **27**, 9–27.—This paper presents numerical data on the visual acuities which correspond to various amounts of ametropia, both natural and artificially produced. The Snellen letters are used to measure the acuities. An attempt is also made to measure the accommodation exerted by observers having uncorrected astigmatisms, in order to determine for what portion of the astigmatic pencil the eye normally focuses. The author uses accommodative esophoria as an indirect measure of accommodation, having first obtained empirically a calibration curve showing the amount of esophoria produced by various degrees of simple hyperopia.—*L. L. Sloan* (Bryn Mawr).

2398. **Velter, E., & Tournay, A. L'inégalité pupillaire.** (Pupillary inequality.) *Clin. opht.*, 1928, **17**, 45–60.—The authors discuss pupillary inequalities due to direct injury of the nervous centers. They give also a topographical classification of injuries.—*C. W. Darrow* (Institute for Juvenile Research).

[See also abstracts 2353, 2356, 2360, 2368, 2371, 2373, 2413, 2445, 2454, 2459, 2541, 2590, 2593, 2637.]

FEELING AND ATTENTION

[See abstracts 2455, 2456, 2521.]

ATTENTION, MEMORY AND THOUGHT

2399. **Leuba, J. H. Intuition.** *Forum*, 1928, **79**, 694–704.—The author deals with one kind of intuitional experience—scientific inspiration. From an examination of several striking scientific revelations the author concludes that "inspiration" is the result of long work and comes out of problems which have not been dismissed from the mind. The characteristics of inspiration are characteristics of all thought. For productive thinking, as for improvement in typing, it is important that there be rest periods, times in which false moves may be forgotten.—*M. Goodrie* (Clark).

2400. **Pear, T. H. Recent investigations on visual imagery, with special reference to hallucinations.** *J. Ment. Sci.*, 1927, **73**, 195–199.—The gap between the two aspects of imagery—that of normal experimental psychology and psychopathology—has never been bridged. Visual imagery was formerly regarded as a unitary subject, but visualizers can be divided into sub-classes according to clearness, vividness, etc. For the clinician another criterion of difference is necessary—insight into the reality of images—but this is not a satisfactory scientific division. Under certain conditions it is normal to mistake visual images for reality, as in dreams or in hypnagogic images. There is an interdependence also between percepts and images. Illusions are an intermingling of present and past experiences. Recent experiences, too, affect visual perception, as in after-sensations resulting from dazzling lights. Then there is the eidetic image, which is a special kind of memory experienced after the object has been removed. Lastly there are the hallucinations and true memory image. While the after-sensation and the eidetic image are bridges between perception and memory, in

the true memory image there is often a striking selection and working up of the details originally seen. The eidetic image is probably related to the pseudo-hallucination, where the patient has insight into the fact that this is not real. Eidetic imagery is common among children but recedes after 14. Doubtless when eidetic imagery is retained in adults, a peculiarity of mind from childhood is also retained.—*E. F. Symmes* (Institute for Child Guidance).

2401. **Peterson, J., & Barlow, M. C. The effects of practice on individual differences.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. II, 1928, 211–230.—A tabular summary is given of studies in the literature upon the increase or decrease with practice of variability in a function. Coefficients of variability are used in each case for presenting the data, and are computed by the authors when not otherwise available. Several original experiments by the authors using digit-symbol substitution, card-sorting, and mental multiplication are also presented. Data from Garrison in which a battery of achievement tests was administered to groups of elementary school children, and data from successive intelligence tests and tests of other functions are also summarized. The results of their analysis are not regarded by the authors as at all conclusive, but several important problems are enumerated as arising from the discussion.—*B. S. Burks* (Stanford).

2402. **Schorn, M. Zur Psychologie der Mehrfachhandlung.** (On the psychology of multiple action.) *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 158–159.—Experiments on children and adults in which a given number of tasks had to be performed simultaneously. The results are discussed in their bearing on vocational psychology and the psychology of testimony.—*H. Klüver* (Columbia).

2403. **Wheeler, R. H. Persistent problems in systematic psychology. V. Attention and association.** *Psychol. Rev.*, 1928, **35**, 1–18.—The author defends the concepts of attention and association as being logically necessary in the consideration of certain current issues. The historical development of these concepts is traced, showing that the English associationists and the Continental rationalists faced the same logical problems, but allowed their epistemological interests to dictate their psychological system-making; whereas if we strip away these epistemological assumptions in the association and attention psychologies we find the same issues alive and facing us. The concepts of attention and association do satisfy the logical demand for a common denominator of mental life, a demand which the newer (configurational) psychology neglects. Association is the problem of pattern, attention is the problem of the form and limits of pattern.—*H. Helson* (Kansas).

2404. **Whipple, G. M. The transfer of training.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. II, 1928, 179–209.—A critical review is presented of the literature on transfer of training. The following sub-headings indicate the method of attack: (1) the problem of transfer; (2) general methods and materials used in the experimental investigation of transfer; (3) some typical investigations of transfer and their results; (4) what has been proved concerning the amount of transfer; (5) what has been proved concerning the agencies of transfer; (6) the pedagogical significance of transfer. A conclusion of major interest and significance is the following: "It is not only probable, but fairly certain, that some of the most important agencies of transfer are to be found among the higher-level relations, in generalized attitudes, moods, ideals, sets, ways of going about mental operations generally."—*B. S. Burks* (Stanford).

[See also abstracts 2546, 2654.]

NERVOUS SYSTEM

2405. **Anton, G. Kompensation und Aushilfe in den Leitungsbahnen des Gehirns.** (Compensation and substitution in the conduction paths of the brain.) *Psychiat.-Neur. Woch.*, 1928, **30**, 2–4.—The author describes the results which were manifested as compensation in the following cases: in one case of total absence of the cerebellum, in a non-diagnosed case of one-sided absence of the cerebellum, in a case in which the cerebellum on both sides was very much stunted. The substitution was effected through the motor and sensory paths of the cerebrum, but it was impossible to determine when the enlargement of the cerebral paths commenced.—*P. Plaut* (Berlin).

2406. **Cornwall, L. H. Cerebro-cerebellar agenesis in its relation to cerebellar function.** *Brain*, 1927, **50**, (parts 3 & 4), 562–572.—A kitten which showed evidence from birth of pronounced neural defects referable to the kinetic and kinaesthetic regulatory systems was observed, and killed at the age of two months. Examination revealed extensive cerebellar and cerebral defects. The chief symptoms were due to the absence of those tracts essential to the assumption and maintenance of correct posture.—*E. N. Brush* (Boston Psychopathic Hospital).

2407. **de Nó, R. L. Untersuchungen über die Anatomie und die Physiologie des Ohrlabyrinthes und des Nervus octavus. Dritter Teil.** (Investigation of the anatomy and physiology of the labyrinth and of the eighth nerve. Third part.) *Monatsschr. f. Ohrenhk.*, 1927, **61**, 857–897.—Patterns of spontaneous nystagmus following unilateral extirpation of the labyrinth in dogs show no consistency from animal to animal or from time to time in the same animal. This is interpreted as against the existence of a specific muscular response to stimulation of specific parts of the labyrinth. The condition of the nervous system as well as a particular end organ appears to be involved. A few hours after extirpation of one labyrinth excitation of the other by rotation may produce the same reactions as formerly were produced with both sides intact. Spontaneous nystagmus, especially when the head is placed in abnormal positions, is likely to occur for months after the operation. The author includes 41 excerpts from the kymographic records.—*C. W. Darrow* (Institute for Juvenile Research).

2408. **Hollander, B. Geniuses and their brains.** *Ethol. J.*, 1928, **13**, 12–16. —"We do not yet know what to look for" when dissecting human brains. "It is not even granted that the primary mental powers are at all localisable." Other difficulties in the way of deducing valuable principles from the study of brain weights are: the age of the subject at death (Anatole France was 80½ when he died); nature of the fluid used in embalming, which sometimes causes brains to lose weight at the rate of 10 g. per day; the extent to which blood is removed from the brain; and healed-up hydrocephalus. It is necessary to know not only the weight of the brain but also the weights of the different parts of the brain.—*F. M. Teagarden* (Pittsburgh).

2409. **Landau, E. Zweiter Beitrag zur Kenntnis der Körnerschicht des Kleinhirns.** (Second contribution to the knowledge of the granular layer of the cerebellum.) *Anat. Anz.*, 1928, **65**, 89–93.—*J. F. Brown* (Yale).

2410. **Laughton, N. B. Studies on the occurrence of extensor rigidity in mammals as a result of cortical injury.** *Amer. J. Physiol.*, 1928, **85**, 78–90.—Owing to the conclusions of Walshe, Brain and others that spasticity of hemiplegia in man is occasioned by lesions in the pyramidal tract, Laughton conceived the possibility of producing extensor rigidity in such animals as the dog, cat, rabbit and guinea pig by injuring the pyramidal tract at its origin in the motor cortex. After exposing a portion of the cortex and determining, by the method

of stimulation, the areas which control the movements of the fore- and hind-legs, one of these centers was extirpated. This resulted in the appearance of definite extensor rigidity in the corresponding limb. This result can be demonstrated with gradually diminishing intensity in dogs and cats for two weeks subsequent to the operation and in rabbits from eight to twelve days thereafter. This form of decerebrate rigidity is interpreted as a release phenomenon which has its seat at some as yet undetermined region in the brain stem. Normal postural tone is maintained by the integrative action of the whole nervous system. Destruction of the motor cortex produces an abnormal condition in the corresponding limbs in the nature of extensor rigidity.—*M. J. Zigler* (Wellesley).

2411. **Nikolajew, N. A. Zur Frage der Implantation von Nerven in Muskeln—Nervenüberpflanzung auf Kehlkopfmuskeln.** (On the question of implanting nerve in muscle—transplantation of nerve on laryngeal muscle.) *Monatsschr. f. Ohrenhk.*, 1927, **61**, 923–937.—Favorable and unfavorable conditions for transplantation are discussed in the light of evidence from the literature. It is pointed out that the passage of time sufficient for muscular degeneration to set in is unfavorable to success. The fibers must be of sufficient size for manipulation. The author's technic is described.—*C. W. Darrow* (Institute for Juvenile Research).

2412. **Nikolajew, N. A. Zur Frage der Implantation von Nerven in Muskeln—Nervenüberpflanzung auf Kehlkopfmuskeln.** (On the question of implanting nerve in muscle—transplantation of nerve on laryngeal muscle.) *Monatsschr. f. Ohrenhk.*, 1927, **61**, 1005–1031.—In order to establish functional relation the peripheral end of a motor nerve should be immediately implanted into a previously denervated muscle. Growth occurs in the space between and in the direction of the muscle fibers, and complete neurotisation may occur within three to four months. Contraction of the newly innervated muscle then occurs as well by stimulation of the nerve as by direct faradization. The newly innervated is distinguishable from other muscle denervated at the same time by the appearance of degenerative changes in the latter.—*C. W. Darrow* (Institute for Juvenile Research).

2413. **Rochat, G. F. Die pupillenverengernden Fasern im Trigeminus beim Kaninchen.** (The pupil-contracting fibers in the trigeminal nerve of the rabbit.) *Graefes Arch. f. Ophth.*, 1927, **118**, 260–269.—The cervical sympathetic and oculomotor nerves of a rabbit having been sectioned, irritation of the medulla causes a marked contraction of the pupil. This contraction is shown to be a direct (non-reflex) effect of stimulation of the trigeminal nerve. Thus in addition to the pupil-contracting fibers in the oculomotor nerve there is a system of fibers of like function in the trigeminal nerve.—*D. McL. Purdy* (California).

2414. **Sachs, E. Symptomatology of a group of frontal lobe lesions.** *Brain*, 1927, **50**, (Parts 3 & 4), 474–479.—25 cases, verified by operation or autopsy, are analyzed with the idea of determining which symptoms are most valuable for purposes of localization.—*E. N. Brush* (Boston Psychopathic Hospital).

2415. **Schafer, E. S. Recovery after severance of cutaneous nerves.** *Brain*, 1927, **50**, (Parts 3 & 4), 538–545.—Recovery was found to progress more rapidly and to be more complete after severance of cutaneous nerves by squeezing with artery forceps than when severance was by simple transection.—*E. N. Brush* (Boston Psychopathic Hospital).

[See also abstracts 2352, 2438, 2455, 2456.]

MOTOR PHENOMENA AND ACTION

2416. **Ach, N. Über die Entstehung des Bewusstseins der Willensfreiheit.** (On the genesis of the consciousness of free will.) *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 91–95.—Ach reports some of the results of his research on motivation. He found that in cases of "free" choice the course of mental processes was nevertheless rigidly determined. After some preliminary trials the experimenter was able to make 100% correct predictions of the decisions of the subjects. But at the same time the author's work made evident the reality of a consciousness of free will. A theory concerning the origin of this consciousness is presented.—*H. Klüver* (Columbia).

2417. **Arquin, S. Modification of adrenalin effect with functional status of stomach.** *Proc. Soc. Exper. Biol. & Med.*, 1927, **25**, 97–98.—The work was done on a series of normal dogs trained to lie quiet without restraint. A small balloon at the end of a duodenal tube was passed by mouth and the tube connected to a water manometer. The balloon was inflated with 100 cc. of air, and the fluctuation of the manometer recorded on a kymograph. Adrenalin was given by intracutaneous injection in the leg. The influence on the stomach and on the hunger contraction was recorded by the balloon manometer arrangement. It is concluded that adrenalin injection may be followed by diametrically opposed reactions on the part of the stomach musculature, depending on the pre-existing status. In a starving animal during a period of quiescence, the adrenalin produced an increase in gastric tonus and forcible hunger contractions, while in a starving animal with active hunger contractions, the adrenalin resulted in a marked gastric dilatation, much greater than the physiologic inhibition observed on control animals. This inhibition from adrenalin lasted from twenty to thirty minutes, after which the stomach gradually returned to the former status. A stomach in active digestive contraction is not influenced at all by the administration of adrenalin.—*W. R. Miles* (Stanford).

2418. **Bast, T. H., Supernaw, J. S., Lieberman, B., & Munro, J. The effect of exhaustion due to lack of sleep on the thyroid and adrenal glands with special reference to mitochondria.** *Amer. J. Physiol.*, 1928, **85**, 135–140.—The normal appearance of thyroid and adrenal gland tissue was compared with that of rabbits which had been exhausted by lack of sleep. In the thyroid, loss of sleep occasioned a marked decrease of the number of mitochondria, swelling of the nuclei and decrease of chromatin which is clustered in small masses along the nuclear membrane instead of being diffusely scattered through the cell. In the adrenal, there was increased vacuolation of the cytoplasm and other minor changes.—*M. J. Zigler* (Wellesley).

2419. **Braun, F. Untersuchungen über das persönliche Tempo.** (Studies on the personal tempo.) *Arch. f. d. ges. Psychol.*, 1927, **60**, 317–360.—When a number of persons are compared as to the speed at which they perform the same task, it is found that each one, if unconstrained, moves at his own characteristic rate or "personal tempo." In a simple tapping experiment large individual differences in personal tempo were observed. Each personal tempo remains fairly constant when the experiment is prolonged over a considerable time or repeated frequently. A comparison was made between the personal tempos of different subjects in the following activities: (1) tapping, (2) lifting weights, (3) walking, (4) writing a single letter repeatedly, (5) writing a copy of meaningful material, (6) reading, and (7) singing. The first three tempos are highly correlated with one another. The functions involved in these actions are predominantly motor and of rhythmical type. In cases (5) to (7) the personal tempo is not so clearly manifest, and is probably masked by the participation of higher mental functions. Case (4) is an intermediate type. The personal

tempo can be changed by inducing a mental set, e.g., by prescribing a definite accentuation in the case of tapping; this tends to level out the individual differences. A medium tempo is probably best in respect to quality of achievement. —*D. McL. Purdy* (California).

2420. **Chen, K. K., & Poth, E. J. The racial difference of the mydriatic action of ephedrines, cocaine, and euphthalmine.** *Proc. Soc. Exper. Biol. & Med.*, 1927, **25**, 150–151.—Ephedrine is quite uncertain as a mydriatic in Chinese and Negroes. Frequently it produces no appreciable change in the diameter of the pupil, quite in contrast to its effect on Caucasian subjects.—*W. R. Miles* (Stanford).

2421. **Clark, A. J. Comparative physiology of the heart.** London: Cambridge Univ. Press, 1927. Pp. 162. $3.25.—Chapters I–V are morphological in scope. The remaining nine chapters are primarily physiological and cover the following topics. Being of a highly technical nature and already condensed to the minimum which clarity of exposition permits one can hardly give a fair estimate of their content by a short review, hence chapter headings alone will be given: the properties of vertebrate heart musele; the transmission of the excitatory process; the nervous control of the heart; influence of temperature on heart functions; the influence of body weight on the size of the heart in warm-blooded animals; the relation between circulation volume and body weight in warm-blooded animals; heart functions in cold-blooded animals and embryos; the work of the heart in relation to body weight in warm-blooded animals; the influence of chemical environment on the heart's activity. Appendices: I. The pulse frequency and metabolic rate of various mammals and birds; II. Heart ratios and aortic cross-sections of various animals; III. Various figures for aortic cross-section.—*C. P. Stone* (Stanford).

2422. **Downey, J. Dextrality types and the preschool child.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. II, 1928, 153–158.—This chapter deals with factors conditioning a special trait, handedness. Owing to the small number of cases thus far studied, the results are, of course, to be taken as suggestive, rather than conclusive. The inference is drawn that dextrality types are probably inborn, since they are very definite in form, appear with different frequencies in the two sexes, and are manifested very early in life. 49 children of ages 2–9 to 5–10 tested for this investigation showed exactly the same dextrality types that adults do, although "a slightly larger percent of unstable reactions were found in the case of the children." Evidence is also presented which shows that the mental age at which a child can distinguish between left and right (Binet six-year level test) may possibly be dependent in part "upon the dextrality type and the harmony or lack of harmony between hand and eye." A third type of data deals with the coaching of 9 children between the mental ages of 4–10 and 5–10 who had failed the left-right test of the Binet. Four of these learned the distinction perfectly, and three of the remaining five approached "the borderline of complete success."—*B. S. Burks* (Stanford).

2423. **Dragstedt, C. A., & Huffman, J. W. Comparative sensitiveness of blood pressure and intestinal motility to epinephrine.** *Proc. Soc. Exper. Biol. & Med.*, 1928, **25**, 241–242.—A sufficient dose of epinephrine was effective in maintaining intestinal inhibition.—*W. R. Miles* (Stanford).

2424. **Ebbecke, U. Die Bedeutung der Untersuchungen über innere Sekretion für die Psychologie.** (The importance of the investigations on internal secretion for psychology.) *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 100–113.—The author briefly summarizes the functions of the different endocrine glands and calls attention to various forms of synergistic and antagonistic action in the endocrine system. The symptoms caused by hypo- and hyperfunction of the different glands are considered. The question as to the causal relation be-

tween psychic manifestations and internal secretion is shown to be a very complex one.—*H. Klüver* (Columbia).

2425. **Engle, E. T. Gonad-stimulating hormone of anterior pituitary and heterosexual ovarian grafts.** *Proc. Soc. Exper. Biol. & Med.*, 1927, 25, 83–84.—Male rats 96 days of age were used; two were castrated, and the ovaries of 20-day old rats were transplanted into the recti abdomines, and anchored with silk sutures. In two unoperated males, ovaries of 20-day-old rats were transplanted, one ovary into each testis. Fresh pituitary transplants from adult rats were given on eight consecutive days to one of the castrated and one of the normal rats. The animals that received the pituitary showed in the ovaries large follicles of mature condition, with apparently normal ova present. The animals that did not receive the pituitary showed ovaries inactive and with a tendency to resorption. There was no indication of a mutual antagonism of the sex glands in those cases where the ovaries had been transplanted into the testes.—*W. R. Miles* (Stanford).

2426. **Hartman, F. A., Evans, J. I., Malachowski, B. T., & Michalek, L. M. The effect of sympathetic nerve stimulation upon the capillaries and fibers of skeletal muscle.** *Amer. J. Physiol.*, 1928, **85**, 99–102.—This study demonstrates the autonomic innervation of skeletal muscle. Cats were anaesthetized or decerebrated and observation, by the aid of a microscope with special illuminating device, was made of the sartorius muscle upon electrical stimulation of the abdominal sympathetic chain. The capillaries dilated and the rate of flow was increased. The muscle fibers vibrated or twitched transversely. The suggestion is made that the fiber vibration phenomenon may be muscular "tone." In an accompanying article the same authors report very similar results as a consequence of injecting adrenalin into the jugular vein of cats and rabbits.—*M. J. Zigler* (Wellesley).

2427. **Ivanoff-Smolensky, A.-G. Études expérimentales sur les enfants et les aliénés selon la méthode des réflexes conditionnels.** (Experimental studies on infants and insane according to the conditioned reflex method.) *Ann. méd.-psychol.*, 1927, **85**, II, 140–150.—This is a brief report of the work started by Krasnogorsky in 1907 and done during 1917–1927. The apparatus consisted of a tube (55 cm. long, 33 cm. in diam.) which is pointed toward the infant at an angle of 45°. By pressing a bulb a shutter is opened and shows to the infant a chocolate and at the same time registers the time graphically on a kymograph. The infant holds another bulb, which when squeezed releases the candy so that it falls onto a saucer. The infant then picks it up and eats it. The time that the bulb is pressed is also recorded on the kymograph. A bell was rung at the same time that the candy was shown for several times, and then it was found that the infant would press the bulb even when the candy was not shown if the bell was rung. A short record and a sketch of the apparatus illustrate the article. This conditioned reflex could be inhibited by flashing a light just above the tube. With adults the second order conditioned reflex was used, by conditioning a new reflex on one that was already acquired by the individual. For instance the order "show your tongue" was used as a stimulus. Inhibitory reflexes were formed by adding a negative order, "do not press the bulb." This method has been used with mental defectives, imbeciles, schizophrenia cases, progressive paralysis, etc. The author concludes that this method is suitable for the study of the functions of the cerebral hemispheres of infants and normal and mentally defective adults. The kinds of inhibitions and the creative reflexes of the cerebrum may be studied with this method.—*O. W. Richards* (Clark).

2428. **Jazuta, K. Zur Frage des Messungen der unteren Extremität am Lebenden.** (The question of measurements of the lower extremities in the living.) *Arch. f. Anthrop.*, 1925, New Series **20**, 154–156.—Half the sum of

symphysis and anterior spine height equal acetabulum height of leg.—(Courtesy of *Eug. News*).

2429. **Klein, H. Über die Orientierung in Raum.** (On orientation in space.) *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 130–133.—Klein considers the different factors which determine the position of a point in space when determined by pointing. He analyzes the rôle of eye- and head movements, of visually perceived and imagined movement in connection with past pointing. In general, displacements occur after unilateral visual, tactile, labyrinthic or kinesthetic stimulation or as a result of perceived movement or of a cerebral lesion. He also analyzes the factors influencing our orientation in space (above-below, right-left, before-behind) and our judgment of direction in space. He believes that the phenomena studied must be traced back to changes in tonus.—*H. Klüver* (Columbia).

2430. **Miles, W. R. How fast can you "get away"?** *Sci. Amer.*, 1928, 226–229.—A description of a multiple chronoscope for use on the athletic field. The recording is by means of a large revolving drum covered with metal screen and with paper on the outside of the screen. Golf balls are released at the moment of signal and of reaction, and striking against the paper of the drum emboss spots by pressing the paper into the screen. Seven men can be measured at one time. This is a semi-popular description of the outfit, and includes three tables of data obtained for measuring the charging time of football players.—*W. R. Miles* (Stanford).

2431. **Ranson, S. W., & Dixon, H. H. Myostatic contracture and other changes in the extensibility of skeletal muscle.** *Proc. Soc. Exper. Biol. & Med.*, 1927, **25**, 175–177.—By the term myostatic, the authors designate a condition of permanent shortening in resting muscle which is maintained in the entire absence of nerve impulses. They made their experiments with the gastrocnemius muscle of the white rat with the static nerve cut, but the circulation intact. The muscle was stretched with different loads, increasing by 10 gm. steps, and with two-minute cycles of stretching and rest. When exposed to the air the muscles, under these conditions, showed permanent elongation. Histological examination showed that the change was not due to increased connective tissue. Other experiments performed with the muscles immersed in Ringer's solution show that the ductility of the muscles is influenced by relatively slight changes in the pH concentration of the fluid which bathes the muscle. The observations seem important as bearing on the problem of tonus.—*W. R. Miles* (Stanford).

2432. **Schoen, M. Instinct and intelligence.** *Psychol. Rev.*, 1928, **35**, 161–166.—Arguments are advanced for the identity of instinct and intelligence, while in the course of the argument other functions are found to be identical as well, e.g., intelligence and education, intelligence and nervous process, that which is acquired and that which is native. Final conclusion: it is education that counts, not capacity.—*H. Helson* (Kansas).

2433. **Terazawa, I. The relation of pathological changes in labyrinth to the loss of nystagmus and rotatory illusion.** *Jap. J. Psychol.*, 1927, **2**, No. 4, 591–611.—133 deaf-mutes in the Tokyo Deaf-Mute School were tested for after-nystagmus and rotational illusion. The chair was revolved 10 times in 15 seconds, and the after-nystagmus was observed in the open eyes. On the basis of the degree of nystagmus these deaf-mutes were classified into 5 groups: (1) none, 37 (28%); (2) trace, 19 (14%); (3) slight, 46 (35%); (4) moderate, 26 (19%); (5) marked, 5 (4%). The auditory acuity increased progressively from Group 1 to Group 5. 9 in Group 1 and 7 in Group 3 could not be tested for auditory acuity in both ears; 12, 13, and 10 in Groups 1, 2, and 3 respectively responded to the auditory test in one ear only. The duration of the nystagmus (in seconds) is as follows: 0, 9.3, 12.7, 15.4, 20.5 in Groups 1–5 respectively.

The dizziness increased also as the nystagmus was more prolonged and marked. 7 normal subjects were tested for post-rotational illusion with the following results; the chair stopped at 29.7 sec.; the cessation of rotation felt at 15.8 sec.; the sensation of reverse rotation began at 21.1 sec.; the sensation of reverse rotation ceased at 26.2. In contrast with these results Group 1, which had no nystagmus, sensed the cessation of rotation at 26.5 sec., while the chair actually stopped at 29.4 sec., and no post-rotational illusion occurred. These two values were pretty close to each other; theoretically they should be identical, and the discrepancy may be explained by the fact that when the chair was slowing down, the movement reached below the threshold of touch and kinesthetic sensations, on which the subjects depended in detecting the rotation. The other 4 groups sensed the cessation of rotation at 17.9 sec., while the chair stopped at 31.1 sec.; the illusion of reverse rotation arose at 23.3 sec., and ceased at 16.7 sec. The mechanism in the internal ear responsible for nystagmus seemed to be functioning inadequately; the inadequacy may be due to pathological changes in the internal ear as studied by Mygind (*Arch. f. Ohrenk.*, 1890).—*J. G. Yoshioka* (California).

[See also abstracts 2410, 2411, 2412, 2436, 2438, 2439, 2441, 2442, 2452, 2485, 2498, 2541, 2586, 2587, 2590, 2593, 2600, 2633.]

PLANT AND ANIMAL BEHAVIOR

2434. **Adams, D. K. The inference of mind.** *Psychol. Rev.*, 1928, **35**, 235–252.—Various theories as to how we infer the animal mind are criticized, and among these Lloyd Morgan's canon receives detailed attention. It is found to be insufficient, and is discredited on other grounds. The author proposes an alternative principle which is believed to indicate more precisely the directions that are taken, or should be taken, by criticism of inferences of mental processes in animals. One important point made in the paper is that certain descriptions of animal behavior, while not quantitative, are nevertheless objective, since they convey a truth about the animal's activities expressible at present in no other way. The alternative principle of inference is fully explained and its applications to the questions discussed illustrated.—*H. Helson* (Kansas).

2435. **Allee, W. C. Studies in animal aggregations: mass protection from fresh water for *Procerodes*, a marine Turbellarian.** *J. Exper. Zoöl.*, 1928, **2**, 295–318.—The marine worms studied show a greater ability to survive exposure to equal amounts of tap-water for a longer time if they are present in numbers. Some aspects of the biological significance and of the mechanism producing the protection are considered.—*L. Carmichael* (Brown).

2436. **Allen, E. Sex characteristics in monkeys.** *Proc. Soc. Exper. Biol. & Med.*, 1928, **25**, 325–327.—A rather detailed discussion of decolorization or "sexual skin" characteristics of monkeys during the menstrual cycles for the female. One large male is described who showed somewhat similar phenomena. From work with spayed females it is concluded that there is no positive evidence for a similarity of action of testicular hormone to that of ovarian hormone in producing substitution effects. There is a blibliography of eleven titles.—*W. R. Miles* (Stanford).

2437. **Chang, H. C., & Liu, S. Y. The influence of the ligation of the two common carotid arteries on maze performance by the white rat.** *J. Comp. Psychol.*, 1928, **8**, 71–74.—The ligation of one common carotid artery decreased slightly the speed of running the maze for a period of 4 days after the operation; but the slight increase in errors persisted for 12 days afterward. The ligation

of the second common carotid produced marked increases in both the time and the errors, and this somewhat inversely to the length of the interval of time separating the two operations. Not all animals were affected by the second operation, the number of such animals increasing as the time between operations increased. Three tables.—*H. R. Crosland* (Oregon).

2438. **Cremer, M., Greisheimer, E. M., & Rosenberg, H. Reflex time, velocity of the nerve impulse and duration of muscular contraction in the tortoise.** *Proc. Soc. Exper. Biol. & Med.*, 1927, **25**, 118.—In this work with the tortoise, a part of the shell was removed to secure access to the muscles and nerves. Mechanical and pain stimuli were employed and non-polarizable electrodes, while the recording was with the string galvanometer. The time between stimulus and the electrical response in the biceps cruris muscle was found to give an average of 38.7 sigma for reflex time. The reflex time was the greater the longer the time elapsing after decapitation; a result of 15.1 meters per second is reported as velocity of the nerve impulse; the sciatic nerve and the gastrocnemius muscle were used.—*W. R. Miles* (Stanford).

2439. **Donaldson, J. C. Adrenal gland in wild gray and albino rat: cortico-medullary relations.** *Proc. Soc. Exper. Biol. & Med.*, 1928, **25**, 300–301.—In both varieties the females have larger adrenals than the males of equal size, and in both sexes the adrenal glands of the adult gray rat weigh roughly twice as much as those of the albino rat. The proportion of medullary tissue to cortical tissue is less in the wild gray than in the albino. The absolute amount of chromaffin tissue is greater in the wild gray, and most of the greater mass of the adrenals in the wild gray consists of cortical material.—*W. R. Miles* (Stanford).

2440. **Evans, H. M. Sterility in inbred rats.** *Amer. J. Physiol.*, 1928, **85**, 154–157.—Using 49th generation animals from the same strain as King reported upon in 1919, when conclusion was made that inbreeding has no effect upon fertility of vigorous mammals, the present investigator very frequently finds copulative delinquency when opportunity is given for brothers and sisters of this strain to mate. This delinquency is very rare when animals from this strain are mated with those of a different strain.—*M. J. Zigler* (Wellesley).

2441. **Hanson, F. B., & Heys, F. On ovarian regeneration in the albino rat.** *Proc. Soc. Exper. Biol. & Med.*, 1927, **25**, 183–184.—Both ovaries were removed from 105 rats, and each ovary was preserved for sectioning. The animals ranged in age from 10 to 200 days at the time of operation. The period allowed for regeneration was from 90 to 180 days. There were eight cases of ovarian regeneration as determined by sectioning the tissue masses. Two of these eight showed incomplete removal of the original ovary. In six cases, therefore, extirpation was apparently complete, and there was ovarian regeneration. This amounts to regeneration in 3.5% of the rats. Ovarian regeneration seems to happen less often with the younger animals. Results by other workers are cited.—*W. R. Miles* (Stanford).

2442. **Helff, O. M. Influence of annular tympanic cartilage on development of tympanic membrane (*Rana pipiens*).** *Proc. Soc. Exper. Biol. & Med.*, 1927, **25**, 158–159.—It is found, with frogs studied in the tadpole stage, that the thyroid hormone is able to induce the tympanic membrane changes in the skin over the cartilage of the annular tympanic only when this cartilage is present. If the annular tympanic cartilage is absent this condition inhibits the development of the tympanic membrane.—*W. R. Miles* (Stanford).

2443. **Ho, Y. H. Transfer and degree of integration.** *J. Comp. Psychol.*, 1928, **8**, 87–99.—Ten groups of from 18 to 20 rats each were run through the maze of Webb and Wiltbank under special conditions of control of the amount of practice, mechanical guidance, and control of the intervals of time introduced between the practice periods for the several different habits. The transfer ef-

fect of various degrees of integration of habit *B* upon the performance of a well integrated similar habit, *A*, was found to be uncertain. The relearning, however, of *A*, was facilitated by the integration of *B* in a manner somewhat proportional to the degree of such integration. The transfer of *B* depends in some degree upon its mode of acquisition. Varying degrees of integration of *A* transfer beneficially upon the new attainment of *B*, in a manner proportional to the degree of the integration when the amount of practice is controlled. Practice upon *B*, inserted during the course of practice upon *A*, facilitates the latter, the transfer varying inversely with the integration of *A* prior to the insertion of *B's* practice. Three references and eleven tables.—*H. R. Crosland* (Oregon).

2444. **Hölldobler, K. Zur Biologie der diebischen Zwergameise (*Solenopsis fugax*).** (The biology of the thieving dwarf ant, *Solenopsis fugax*.) *Biol. Zentbl.*, 1928, **48**, 129–142.—Observations on *Solenopsis fugax* at large and in artificial nests. Attention is paid to culture of aphids, treatment of the queen and behavior toward parasites and guest insects. Bibliography.—*J. F. Brown* (Yale).

2445. **Hopkins, A. E. Vision and retinal structure in mice.** *Proc. Nat. Acad. Sci.*, 1927, **13**, 488–92.—A small number of mice were tested for color vision in a discrimination box, lights and Hering papers being used as signals, with electrical punishment for incorrect choices. Four mice were shown to be color blind, while one specimen was able to discriminate red from each of a great number of neutral intensities. Mice with normal retina (all-rod) are color blind. Examination of the retinae failed to demonstrate cones in the color-discriminating mouse. This, however, was not taken as opposing the duplicity theory, for the elements of the retina were morphologically incompletely developed.—*H. E. Jones* (California).

2446. **Johnson, G. E. Hibernation of the thirteen-lined ground squirrel, *Citellus tridecemlineatus* (Mitchell).** *J. Exper. Zoöl.*, 1928, **50**, 15–30.—A torpid or hibernating ground squirrel is rolled up, somewhat stiff, and cold to the touch. The normal respiration rate of active animals is from 100 to 200; deeply torpid animals have a rate of from 4 per minute to one in five minutes. Heart beat is reduced from 200 to 350 per min. to an average of 17.4 beats per min. at an external temperature of 10° C. The ground squirrel, not hibernating, has a temperature ranging from 32° C. to 41° C., but reaches 42.3° C. in high room temperatures. The minimum body temperature in hibernation is between 0° and 2° C. The loss of weight may approach 40% in a winter of hibernation. When deeply torpid the animals give no response even to strong mechanical stimulation. Literature is cited.—*L. Carmichael* (Brown).

2447. **Kennedy, W. P. Reproduction and diet in the rat.** *Quar. J. Exper. Physiol.*, 1926, **16**, 281–289.—Vitamin E and calcium are important in the diet of rats which are to reproduce normally. The germ cells are probably affected. Agar agar is not necessary for reproduction when feeding with purified diets.—*L. Carmichael* (Brown).

2448. **Liu, S. Y. The relation of age to the learning ability of the white rat.** *J. Comp. Psychol.*, 1928, **8**, 75–85.—Seven groups of rats, of 40, 24, 24, 43, 25, 25, and 25 individuals, aged from 30 to 250 days, were run through the maze, one trial per day, until successful running without error occurred in 3 consecutive trials or in 4 out of 5 runs. Ability to learn was found to increase rapidly between the ages of 30 to 75 days, and to decline from then on up to the age of 250 days. Maximal learning occurred between the ages of 75 and 100 days, corresponding with the age of ovulation. Except for the 75-day group, the differences between the mean scores for the age groups are shown to be significant by the d/σ_d computation. Four references, nine tables, and three figures.—*H. R. Crosland* (Oregon).

2449. **Muenzinger, K. F. Plasticity and mechanization of the problem box habit in guinea pigs.** *J. Comp. Psychol.*, 1928, **8**, 45–69.—The frequency of a certain type of response, as exhibited in 13 guinea pigs, is no indication of its ultimate fixation, because of the plasticity shown in alternations from one pattern of behavior to another or from one phase to another within one pattern. The habit of the problem box is an adaptation resulting from purposive striving in such a manner that objects become stimuli or cues only as they assume meanings, not as absolute stimuli in themselves. Fourteen references, three tables, and three figures.—*H. R. Crosland* (Oregon).

2450. **Patch, E. M. Biometric studies upon development and growth in *Amblystoma punctatum* and *tigrinum*.**—*Proc. Soc. Exper. Biol. & Med.*, 1927, **25**, 218–219.—The various factors which have been found to modify the development are briefly discussed and the results given. Three life cycles are made out, the third one beginning at a time which seems to correspond with the development of sexual maturity.—*W. R. Miles* (Stanford).

2451. **Perkins, E. B. Color changes in Crustaceans, especially in *Palaemonites*.** *J. Exper. Zoöl.*, 1928, **50**, 71–99.—The shrimp studied has the ability to change color in accordance with the color of its surroundings. This change depends on changes in the pigmented chromatophores. A time of two hours is required for a complete change. Removal of both eyes brings on a lasting expansion of the chromatophores which is unaffected by light or background. Coating the eyes with an opaque mixture or complete darkness brings about contraction of the chromatophores. This mechanism of color change is not under nervous control. It is due probably to the fact that the eyes are endocrine organs which produce a substance carried to the chromatophores by the blood stream.—*L. Carmichael* (Brown).

2452. **Price-Jones, C. The effect of exercise on the growth of white rats.** *Quar. J. Exper. Physiol.*, 1926, **16**, 61–67.—Forced exercise in a revolving drum retards the increase in weight and length of the body and of the skeleton of young, newly weaned rats.—*L. Carmichael* (Brown).

2453. **Reisinger, L. Katalepsie der indischen Stabheuschrecke (*Dixippus morosus*).** (Catalepsy of the Indian locust, *Dixippus morosus*.) *Biol. Zentbl.*, 1928, **48**, 162–167.—A study of the influence of light (daylight, artificial, and colored), narcosis, and mutilation on the Indian locust. Conclusion that catalepsy is a defense-reaction.—*J. F. Brown* (Yale).

2454. **Roggenbau, C. Ein Beitrag zur Kenntnis der Entstehung der Farben des Tapetum lucidum, im besonderen des Tapetum fibrosum des Säugetierauges.** (On the origin of the colors of the tapetum lucidum, in particular of the tapetum fibrosum, of the mammalian eye.) *Graefes Arch. f. Ophth.*, 1927, **119**, 694–701.—The tapetum lucidum is that part of the choroid membrane which is responsible for the colored glow visible in the eyes of certain mammals. Two types of tapetum have been described. The tapetum cellulosum, found in the eyes of carnivorous animals, owes its color to the presence of microscopic crystals. There has been a difference of opinion as to the origin of the colors of the tapetum fibrosum. The author has made a physical study of the light received from a tapetum of this type, and finds its color to be a mixture of surface- and interference-color. It is clearly shown that phosphorescence and fluorescence play no part. 21 references.—*D. McL. Purdy* (California).

2455. **Shaklee, A. O. Anatomy of fear.** *Proc. Soc. Exper. Biol. & Med.*, 1928, **25**, 331–333.—The paper reports the results of work with pigeons after the ablation of various amounts of brain tissue. Detailed results for four individual pigeons are given. In all there appears to be a gradual recovery of ability to show signs of fear, following the operation.—*W. R. Miles* (Stanford).

2456. **Shaklee, A. O. Decerebrate pigeon-fear signs.** *Proc. Soc. Exper.*

Biol. & Med., 1927, **25**, 186–188.—Although it is generally held that pigeons deprived of their cerebral hemispheres exhibit no signs of fear, this author finds what he considers undisputed fear-signs. The paper reports so-called fear reactions from various kinds of stimuli. One bird was studied throughout a period of 49 days after the operation, and later a microscopic study of the brain was made. This showed a small residue of apparently living cerebrum tissue in three different regions.—*W. R. Miles* (Stanford).

2457. **Shirley, M. Studies of activity. I. Consistency of the revolving drum method of measuring the activity of the rat.** *J. Comp. Psychol.*, 1928, **8**, 23–38.—Brown's correction formula was found to apply to the data of the activity of groups of 29, 17, and 19 rats; the data, taken with the revolving drum method, were found to be highly consistent and reliable. Records taken over 5 consecutive days proved to be as consistent as those over a 10-day period. A split-control period, of 5 days immediately prior to the 10-day experimental period, followed by 5 days immediately after the latter, proved to be a fairly reliable method of control. The median of experimental trials was found to be as reliable as the mean of control trials. Two references, one graph, and ten tables.—*H. R. Crosland* (Oregon).

2458. **Slonaker, J. R. The effect of different amounts of sexual indulgence on the life span of the albino rat.** *Amer. J. Physiol.*, 1928, **85**, 106–117.—The general results of these experiments are as follows: "Normal reproduction is more favorable to longevity of both the female and the male than chastity. Excessive indulgence without bearing young tends to shorten the life span of both sexes. The females are more affected than the males."—*M. J. Zigler* (Wellesley).

2459. **Stone, L. S., & Ussher, N. T. Return of vision and other observations in replanted amphibian eyes.** *Proc. Soc. Exper. Biol. & Med.*, 1927, **25**, 213–215.—Conflicting results have been published with reference to the transplantation of eyes. This paper deals with *Amblystoma punctatum* larvae, 19–23 mm., and adult *Diemyctylus viridescens*. Chloretone anesthetic was used. The eyes were removed by very small scissors and forceps, manipulated under the compound dissecting microscope; very little hemorrhage was encountered. Return of circulation was first noted within superficial vessels in the iris in *Amblystoma* larvae as early as 24 hours after the operation, in the *Diemyctylus* as early as the fifth day. Return of ocular movements was found in both types of replanted eyes, in *Amblystoma* as early as nine days after operation. Much care was taken in tests for returned vision to eliminate olfactory, gustatory, tactile and mechanical disturbances. Most animals with only the replanted eye exposed react like animals with normal eyes exposed. The authors report that they have found returned vision in replanted adult *Amblystoma* eyes. The retinae of replanted eyes in both types of amphibians showed reduction of ganglion cells to about one-half the normal number.—*W. R. Miles* (Stanford).

2460. **Takei, K. On visual discrimination and its learning with chickens.** *Jap. J. Psychol.*, 1927, **2**, No. 1, 32–87.—9 young chicks were trained in the Yerkes discrimination box, and were found to prefer the right path to the left (average choice of the right path in 5 trials was 3.1; that of the left, 1.9). The difference, however, was not very significant. When grey and black Zimmermann's papers were presented in each path in an irregular order, the chicks chose grey 6.4 times on an average in ten trials, while black was chosen 3.9 times on an average. After this preliminary training, the chicks were made to react positively to grey (Zimmermann's No. 28) and negatively to black (Zimmermann's No. 50), the wrong choice being punished by electric shocks. 10 trials were given each day; 20 errorless choices in succession were the criterion of

learning. 7 chicks (2 were lost by death and injury) learned this reaction in 8–10 days. Gross errors were mostly eliminated with the first 2–3 days. 6 chicks (the seventh died) were then given a free choice between the same grey and pure white. The average choice of grey was 5.8 in 10 trials as against 4.2 for white. The relative choice, which Köhler would expect under the situation, did not appear. The difference between grey and black may not have been identical with the difference between grey and white perceptually. When 2 circles, one with a diameter of 6 cm. and the other with a diameter of 3 cm., were given for a free choice, the bigger circle was chosen 6.3 times on an average in 10 trials. Then the same chicks were made to react positively to a circle, 28 sq. cm. in area, and negatively to a smaller circle, 7 sq. cm. in area. 10 trials were given each day; wrong choices were punished by electric shocks. Two of the six chicks reached the criterion of learning, which was 30 consecutive errorless choices, in 2–4 days; the third learned the reaction in 3–5 days; the fourth, in 4–6 days; the fifth and six, in 5–7 days. The great facility of learning shown here seemed to be due to the cumulative practice effects of the preceding experiments. When two circles, one with an area of 28 sq. cm. (bigger circle in the series just completed), and the other with an area of 63 sq. cm., were given for a free choice, the chicks chose the bigger circle 6.5 times on an average in 10 trials. Köhler's relative choice appeared here. In a similar procedure the same chicks were given a free choice between a rectangle, 1×6 cm. and a parallelogram of the same size, whose vertical sides made an angle of 45° with the base; the rectangle was chosen 5.2 times on an average in 10 trials. Then the parallelogram was made a positive stimulus, the rectangle, negative stimulus. The first chick reached the criterion of learning, 30 consecutive errorless choices, in 2–4 days; the second, third and fourth learned the reaction in 3–5 days; the fifth, in 4–6 days; the sixth was taken out due to sickness. The next day the five chicks were given a free choice between a rectangle 6×1 cm. and a parallelogram of the same size. The choice of the rectangle was 5.2 times on an average in 10 trials. This pair of forms acted as new stimuli; the chicks failed to react to the relationship between the vertical and the horizontal sides. It was concluded that the chicks are sensitive to the differences in light intensity, size, and form, and the learning involved in the reaction showed an "insight" rather than associative mechanism of trial and error on the basis of the analysis of the learning curves. —*J. G. Yoshioka* (California).

2461. **Terao, A. Growth of the lobster, *Homarus americanus*.** *Proc. Soc. Exper. Biol. & Med.*, 1928, **25**, 353–355.—The data collected by Hadley are here given as a mathematical analysis. The growth curve is given for the male lobster in terms of biological age rather than in terms of time. If it is assumed that each successive moult of a lobster represents an equal advance in its biologic age, the growth of the body in length follows approximately a logistic curve. Growth in length has been measured over an observational period of six years, but this growth plotted against time gives a logarithmic parabola. The author has no explanation for the two forms of curves found.—*W. R. Miles* (Stanford).

[See also abstracts 2406, 2410, 2413, 2417, 2465.]

EVOLUTION AND HEREDITY

2462. **Anderson, L. D. The relationships of certain environmental factors to measures of mechanical ability.** *27th Yrbk. Nat. Soc. Stud. Educ., Pt. II*, 1928, 137–150.—Measures were obtained for 100 junior high school boys upon

(1) mechanical performance in the form of ratings on actual work, (2) a mechanical information test, (3) a prognosis battery of mechanical tests. Data were also secured upon environmental conditions, including the cultural status of the homes, literary and recreational interests of the boys, mechanical tools owned by the fathers and by the sons, and mechanical operations which the fathers and sons performed. Correlations of above factors of environment were non-significant for the most part excepting in the case of "mechanical operations of son." The correlations between the Otis IQ's of the subjects and their measured mechanical ability were also negligible.—*B. S. Burks* (Stanford).

2463. **Burks, B. S. Comments on the Chicago and Stanford studies of foster children.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. I, 1928, 317–321.—Results from two studies on the development of foster children (see II: 2464, 2469) are considered analytically, and corresponding data from the two studies are compared item for item. The conclusion is reached that the studies show substantial agreement with respect to the increase in IQ attributable to environment, but certain discrepancies with respect to the correlations found between IQ and certain factors of environment. An attempt is made to account for these discrepancies.—*B. S. Burks* (Stanford).

2464. **Burks, B. S. The relative influence of nature and nurture upon mental development; a comparative study of foster parent-foster child resemblance and true parent-true child resemblance.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. I, 1928, 219–316.—The study was undertaken with the purpose of untangling the influence of home environment and heredity as determiners of mental ability. Correspondences between the mental status of foster parents and foster children were compared with those between true parents and true children. Since heredity was ruled out in the foster group (and since resemblance due to selective adoption was also largely ruled out by the criteria for inclusion of cases), it was possible to determine how much of ordinary family resemblance is due to the influence of environment. The data consist of Stanford-Binet intelligence test records upon 200 sets of foster parents and foster children, and upon 100 sets of true parents and true children, together with environmental data upon the cultural, educational, and material aspects of the homes. The foster children were placed in their foster homes during the first year of life (the average age of placement being only three months). They were all from 5 to 14 inclusive when tested. Only children placed with white, English-speaking foster parents were included. In selecting the control group, foster parents were matched by controls for intelligence and occupational status, and foster children were matched for age and sex. Correlations are presented between the intelligence quotients of the children and certain hereditary and environmental factors, including that of parental or foster parent intelligence. The conclusions are reached that the contribution of home environment to variance of intelligence is close to 17%; that measurable environment one standard deviation above or below the mean of the general population does not shift the IQ by more than 6 to 9 points above or below the value it would have had under normal environmental conditions; and that the maximum potency of home environment in ordinary communities to enhance or depress the IQ is of the order of about 20 IQ points.—*B. S. Burks* (Stanford).

2465. **Carmichael, L. A further experimental study of the development of behavior.** *Psychol. Rev.*, 1928, **35**, 253–260.—Further evidence on the problem of the relative importance of heredity and environment in the development of behavior is presented on the basis of experiments performed upon *Amblystoma* artificially removed from the influence of external stimulation and upon comparable groups allowed to grow in a relatively normal environment. In spite of the difference in the stimuli affecting three groups of organisms during de-

velopment, no difference in behavior could be noted between the individuals of the experimental group and those of the two check groups. The development of behavior seems to be the result of the interdependent influence of the action of both environmental and hereditary factors.—*H. Helson* (Kansas).

2466. **Draper, G., & McGraw, R. B. Studies in human constitution. V. The psychological panel.** *Amer. J. Med. Sci.*, 1927, **174**, 299–313.—A method for estimating and charting the psychic patterns of an individual. Differences in the psychic patterns of gall bladder and ulcer races. The psychological panel shows evidence of gynandromorphic mosaic, as well as morphologic panel. The gall bladder race more stable than the ulcer race.—(Courtesy of *Eug. News*).

2467. **Farnsworth, P. R. The effects of nature and nurture on musicality.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. II, 1928, 233–245.—The main lines of attack upon the subject of this paper have been (1) to investigate family resemblance in musicality, and (2) to investigate the so-called "elemental character" of musical abilities. The author summarizes the available evidence upon each aspect of the problem, and concludes that the question is "still a moot one."—*B. S. Burks* (Stanford).

2468. **Fleure, H. J. The regional balance of racial evolution.** *Rep. Brit. Asso. Adv. Sci.*, 1926, 181–207.—An attempt "to outline an evolutionary rather than a taxonomic survey of the races of man." Emphasizes the supreme importance of the study of growth in children—each individual studied to be followed year by year.—(Courtesy of *Eug. News.*)

2469. **Freeman, F. N., Holzinger, K. J., & Mitchell, B. C. The influence of environment on the intelligence, school achievement, and conduct of foster children.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. I, 1928, 102–217.—"The chief problem of this investigation was to determine whether the intelligence of the child is affected by the character of his environment." The subjects were children obtained through the Illinois Children's Home and Aid Society, and consisted of the following groups and sub-groups: "home group" of 401 children in foster homes; pre-test group of 74 children who had been given a Binet test before being placed in their present homes; sibling group of 185 children who had siblings from whom they had been separated; limited sibling group of 125 pairs who had been separated four years or more; foster-own group of 40 pairs of a foster child and an "own" child being reared in the same home; foster-foster group of 72 pairs of two foster children reared in the same home. The subjects included children placed from birth up to age 17 and tested from 2 to 22 years. The Stanford-Binet was given to all the children and the International test to some of them. A home rating was obtained based upon culture, material comfort, education of foster parents, etc. The Otis test was given to some of the foster parents. The results were worked up to show, among other things, the increase of IQ due to environment over 4 years in the pre-test group; correlations between IQ and environmental factors in the home group; correlations between IQ's of siblings that were reared separately and between unrelated children reared together. The authors conclude that environment has had an appreciable effect upon the intelligence of their subjects. The school achievement of the children measured in terms of acceleration and retardation compares favorably with that of unselected children. With regard to behavior, only 32 cases of the 401 in the home group had behavior difficulties considered serious.—*B. S. Burks* (Stanford).

2470. **Sommer, R. Familienforschung, Vererbungs- und Rassenlehre.** (Family investigation, science of heredity and race.) (3rd Ed.) Leipzig: Barth, 1927. Pp. 519.—(Courtesy of *Eug. News.*)

2471. **Wagner, A. Die Umwertung der Entwicklungslehre. II. Teil. Die Fragen der Vererbung erworbener Eigenschaften und des Höhersteigens des**

Lebens. (New points of view in the appreciation of the theory of evolution. Part II: The question of the heredity of acquired characters and of the elevation of life.) *Scientia*, 1927, **42**, 193–200.—The author considers evolution as a functional dynamic factor rather than as a material morphological phenomenon, and from this viewpoint discusses the indicated topics.—*R. G. Sherwood* (Stillwater, Minn.).

2472. **Whipple, G. M. [Ed.] Nature and nurture. Part I. Their influence upon intelligence.** Pp. 465. **Part II, Their influence upon achievement.** Pp. 397. Bloomington: Public School Publishing Co. 1928. (27th Yearbook of the National Society for the Study of Education.)—This Yearbook, prepared by a committee of which L. M. Terman was chairman, encompasses "the results of new investigations bearing on the nature-nurture problem, with only a minimum of space devoted to orientational and interpretative contributions." Studies are presented which deal with the contributions of definite nature and nurture factors to intelligence, to school achievement, and to sundry special traits. For abstracts of the separate articles in this Yearbook see II: 1499, 1500, 1504, 1506, 1510, 1512, 1513, 1647, 1649, 1691, 1706, 1708, 1962, 2063, 2111, 2304, 2309, 2338, 2342, 2345, 2401, 2404, 2422, 2462, 2463, 2464, 2467, 2469, 2608, 2614, 2617, 2622, 2627, 2628, 2645.—*B. S. Burks* (Stanford).

[See also abstracts 2440, 2493, 2522.]

SPECIAL MENTAL CONDITIONS

2473. **Bartlett, F. C. The psychological process of sublimation.** *Scientia*, 1928, **43**, 89–98.—Sublimation is not a redirection of a wholly hypothetical "energy," but rather a reorganization and integration of specific reaction tendencies.—*R. G. Sherwood* (Stillwater, Minn.).

2474. **Blasberg, U. Wege zu übersinnlicher Anschauung.** (Paths to supersensual perception.) Basel: Geering, 1927. Pp. 108. Fr. 4.—In brief essays which all deal with supersensual perception the author confirms Steiner's conceptions from his own experience. He does not talk about an unexperienced "Beyond the Soul," but he shows paths to a fully conscious experience of the supersensual in which our real self expresses itself. It overshadows experience in the usual sense. To every unbiased person it ought to seem absurd to discern the true form of the supersensual by dragging it into the realm of the sensual as it is done in spirit photography. Only he who knows both through his own perception can distinguish supersensual perception from apparition and hallucination. Similarly there is a difference between suggestion and hypnosis. Blasberg warns not to isolate oneself from life; a naïve and natural participation in life will always be of benefit to the one who strives for the supersensual. According to the author the essentially emotional ecstasy of the mystic differs from supersensual perception, which is a meditation full of ideas. As one path he mentions absorbed reading, which requires a more intense spiritual energy. Finally he expects the solution of the crisis of our civilization to come from such a new attitude of mind.—*A. Römer* (Leipzig).

2475. **Commission linguistique pour l'unification du vocabulaire psychoanalytique français.** (Linguistic commission for the unification of the French psychoanalytic vocabulary.) *Rev. fr. de psychanal.*, 1927, **1**, 582–583.—(See also II: 949.) The following additional equivalents have been adopted as standard:

Angsthysterie, syndrome phobique, anxiety hysteria. (In Freud's sense, "Angst" or "anxiety" have more definite connotations in the emotional life than the terms "fear" or "dread." The term "anxiety" represents a combination of apprehension, uncertainty and fear with special reference to the bodily manifestations of the emotion.)

Conversionhysterie, syndrome de conversion, conversion hysteria. (In Freud's sense a symbolical expression of a complex by means of physical manifestations.)

Angstneurose, névrose d'angoisse, anxiety neurosis.

Zwangshandlung, acte obsédant, obsessive or obsessional act. (Part of a genuine obsessional neurosis.)

Zwangsvorstellung, idée obsédante, obsession or obsessional idea.

Zwangsdenken, pensée obsédante, obsessive or compulsive thinking.

Zwangsgrubeln, rumination mentale, obsessive speculation.

Zwangsonanie, onanisme obsédant, compulsive onanism.

Zwangsceremoniell, cérémonial obsédant, obsessive (compulsive) ceremonial.

Zwanghaft, compulsif, compulsive.

Erregung, excitation (émoi), excitation.

Abfuhr, déversement, discharge.

Abreagiren, abréaction, abreaction. (The process of working off a pent-up emotion by living through it again in feeling or action.)

Reizquelle, excitant (as a noun), source of stimulation.

Somatisches Entgegenkommen, complaisance somatique (plasticité corporelle), somatic compliance.

Besetzungenergie, energie d'investissement, cathectic energy. (Cathexis, derivative adjective "cathectic," used in the sense of "investment" or "charge," as denoting a concentration or accumulation of mental energy in some particular channel, such as "libidinal" or "object cathexis." See Freud's *Group Psychology and the Analysis of the Ego*, London, 1922, narcissism, and the various papers on metapsychology.)

Rückbesetzung, investissement régressif, regressive cathexis.

Reaktionsbildung, formation réactionnelle, reaction-formation. (In the sense of the development of a character trait that keeps in check and conceals another one, usually of the exactly opposite kind.)

Wiederholungzwang, contrainte de répétition, repetition-compulsion or compulsion to repeat. (See Freud's *Beyond the Pleasure Principle*, London, 1922.)

Primar Vorgang, processus primaire, primary process.

Isolierung, isolation, isolation.

Ungeschehenmachen, annulation rétroactive, retroactive undoing.

Triebmischung, intrication des pulsions, instinct formation.

Triebentmischung, désintrication des pulsions, instinctual defusion.

—*I. H. Coriat* (Boston).

2476. **de Sanctis, S. La coscienza onirica.** (Oneiric consciousness.) *Scientia*, 1928, **43**, 17–24.—The consciousness of the dream life is distinguished from that of the waking life. The two are connected by memory and by the fact that the subject remains the same organism with the same instincts, past experiences, etc. The oneiric consciousness is the cause of some art, and of "double personality." It differs from consciousness chiefly in the paucity of its inhibitions.—*R. G. Sherwood* (Stillwater, Minn.).

2477. **Faithfull, T. J. Bisexuality: an essay on extraversion and introversion.** London: Bale, 1927. Pp. 96. 2s.—Bisexuality means the presence in each individual, male or female, of both the psychological attributes, instincts and desires, generally attributed to males and those attributed to females. The terms employed are used in a highly technical sense. The libido means the spiritual or psychical energy present in all living cells. "Extraversion is the outward flow of libido towards or into a person or object." "Introversion is the inward flow of a person's own libido or that extraverted from another person or object." In actual experience the larger part of human beings have a personality either definitely extraverted or introverted. Roughly the female is an introvert, the male is an extravert. If the female characteristics predominate, the individual is introverted and the male characteristics inhibited; if the male characteristics predominate, the individual is extraverted and the female characteristics inhibited. No matter how deep below a complete surface femininity we have to dig, we find a complete male striving for expression. No matter how far down in the psyche we have to probe, we find the woman in the self-assertive male. This, according to the writer, is the most profound truth of psychoanalysis.—*W. H. Burnham* (Clark).

2478. **Geijerstam, E. Zur Frage des Verdrängungsproblems.** (On the problem of repression.) *Acta Psychiat. et Neur.*, 1927, **2**, 5–39.—In this lecture delivered to the Psychological-Philosophical Society at Gothenburg, Sweden, Geijerstam endeavors to clear up several misunderstandings of Freudianism and to defend its main contentions. Freud has never stated that he has found the original basis for neurosis (ref. to *Hemmung, Symptom und Angst*, 1926, p. 100); the writer has, however, never met with any case of neurosis which was unaccompanied by sexual disturbances or deviations, and contends that many open-minded scholars now hold that Freud's discovery of the relationship between sex and neurosis parallels the story of Columbus and the egg. Geijerstam formulates his own thesis on sex and neurosis thus: "Sexuality, as primitive instinct on the whole, is often reflected in the general attitude of the individual towards life." It is not true that Freud underestimates constitutional factors, as is generally supposed, but he does try to go beyond the constitutional X. The main reason for the apparent opposition to Freud at present seems to be that he is getting too theoretical and speculative; the writer, like many others, cannot follow him in all details here, but maintains that proper regard for the primitive infantile basis of the individual must be one of the cornerstones upon which to build a systematic psychology. In regard to the concept *Verdrängung*, so often misunderstood, it should be noted that Freud in later publications again uses his old concept *Abwehr* and differentiates very clearly between this and *Verdrängung*. Some English writers have evidently not been aware of this distinction. The *Verdrängung* (repression) is only one kind of *Abwehr*, the latter being defined by Freud as *Schutz des Ichs gegen Triebansprüche* (defense of the ego against instinctive urges). Various forms of *Verdrängung* are critically discussed, and a case of a 46-year-old woman suffering from a special phobia, taken from his own practice, is given in detail. Another case offers some light on Freud's theory of melancholia.—*M. L. Reymert* (Wittenberg).

2479. **Gifford, E. W. Yuma dreams and omens.** *J. Amer. Folk-Lore*, 1926, **39**, 58–69.—Report of the dreams of Joe Homer, a Yuma Indian, with comments on his notion that dreams are essential in learning myths. The author comments upon the influence of living habits upon dreams, and upon the use of drugs (jimsonweed) in inducing dreams in initiates.—*J. R. Kantor* (Indiana).

2480. **Glover, E. Lectures on technique in psychoanalysis.** (Concluded.) *Int. J. Psychoanal.*, 1928, **9**, 181–218.—The seventh lecture is on the limits for the use of "active therapy" as developed by Ferenczi. Sometimes it is necessary to play the super-ego role desired by the patient. The eighth lecture deals with analytic crises and exceptional cases of emotional maladjustment and psychotic tendency. There should be a balance between libido analysis and ego analysis. The greatest safeguard in all situations of difficulty is the analyst's state of freedom from unconscious bias, which can be obtained only by analysis of the analyst. —*C. Moxon* (San Francisco).

2481. **Hewlett, T. C., & Lester, O. P. Measuring introversion and extroversion.** *Person. J.*, 1928, **6**, 352–360.—The object of this experiment was to find an objective measure of introversion and extroversion. A preliminary selection of two groups of freshman girls—20 introverts and 20 extroverts—was based upon a self-rating on six traits. These 40 subjects were then interviewed upon several questions of interest. The subjects were graded as either extrovert or introvert by the amount of "expressiveness" (readiness to talk) shown in the interview. This measure of expressiveness or extroversion gave a correlation of .06 with the self-ratings upon which the groups were selected; .07 with intelligence test scores; .40 with the Gilliland Test of Sociability; and .60 with the dean of women's estimate of the introversion or extroversion of these girls. Certain facts of personal history were apparently associated with introversion, par-

ticularly a poor medical history, present physical handicaps, and attendance at a large high school.—(Adapted from *Person. J.*)

2482. **Jaschke, W. K. Die parapsychologischen Erscheinungen.** (The parapsychological phenomena.) Innsbruck: Verlagsanstalt Tyrolia, 1927. Pp. 85. Sch. 2.20.—This pamphlet helps to orient the reader about psychical and physical phenomena and the attempts at explanation. The author limits himself chiefly to a factual description of events. There is a historical introduction, and examples are well chosen. They are taken partly from Tischner, von Schrenk-Notzing, the reports of the journal *Natur und Kultur*, etc. The critical exposition of Gulat-Wellenberg for instance of the teleplasm, is not noted. One has the impression that the book puts little weight on any hypothesis of fraud. The author's own experiences have probably influenced his attitude greatly; thus he reports to have grasped a materialized hand reaching out of the slit of a curtain and having a warm feeling as if of flesh and bone until it dissolved (p. 55). "Starting with the known according to scientific method," Jaschke assumes that "animism is sufficient as an explanation of many phenomena, without excluding thereby the possibility of spiritism or demonism." The author recommends spiritistic theory as a working hypothesis for the activities of a medium. He excludes religious spiritism.—*A. Römer* (Leipzig).

2483. **Jones, E. R. Character in its relation to democratic institutions.** *Ethol. J.*, 1928, **13**, 1–4.—*F. M. Teagarden* (Pittsburgh).

2484. **Müller-Braunschweig, C. Das Verhältnis der Psychoanalyse zu Ethik, Religion und Seelsorge.** (The relation of psychoanalysis to ethics, religion and the ministry.) Series *Arzt und Seelsorger*, No. 11. Schwerin: Bahn, 1927. Pp. 72. Rm. 2.70.—The author is of the opinion that psychoanalytic investigation does not endanger religion. In the first place the relation of psychoanalysis to religion is merely that of science to religion; religion is the superior discipline. On the other hand a comparison is even beneficial for religion, since psychoanalysis, through the uncovering of the unconscious, can supply ethics as well as religion with new life. This is shown in ethics in the extension of human responsibility: unconscious tendencies and intentions are not merely physical but psychic processes; thus the ego must be made responsible also for the unconscious intentions. The author takes religion as faith, love, hope and obedience, and not as dogmatic belief in the truth of something; and redemption, which becomes real in religion, he takes in the sense that man is freed not from all guilt but from its weight (p. 60). Religion and psychoanalysis have in common the dualism between destruction and reconstruction, the urge for life and death, the good and the bad. The author tries to protect psychoanalysis from all kinds of misunderstandings in regard to its theoretical position as well as its practice. In connection with sexual symbolism he points out exaggeration and abuse, although he states that the analyst is surprised at the really frequent occurrence of sexual symbolism in dreams. As regards sublimation he distinguishes sharply the descriptive from the theoretical view; one cannot say, e.g., whether civilization is to be explained as transformation of sexual into non-sexual libido, or otherwise. One must also distinguish sublimation, e.g., in the ideal minister, from the effect of an accumulation of repressed tendencies. In regard to the genesis of the super-ego (conscience) out of the Oedipus complex, it ought to be noted that the author recognizes the super-ego as a component force in the personality.—*A. Römer* (Leipzig).

2485. **Pauli, R. Der Einfluss von Tee auf geistige Arbeit.** (The influence of tea on mental work.) *Arch. f. d. ges. Psychol.*, 1927, **60**, 391–416.—10 grams of tea produce a 9% increase of output in the task of continuous addition. 20 grams, however, fail to increase the output proportionately; there is thus an optimum dose which is less than 20 grams. The effect of tea is approximately a

logarithmic function of the number of grams taken. The effect, unlike that of alcohol, does not depend on the concentration. Mental work is improved in quality as well as quantity. 16 references.—*D. McL. Purdy* (California).

2486. **Prince, M. Why the body has a mind and the survival of consciousness after death.** *Mind*, 1928, **37**, 1–20.—The problem of the nature of mind is inextricably involved in that of the mind-body problem; the purpose of this paper is to present the arguments in favor of a double aspect theory, which asserts that mind and body are one and the same thing, immaterial mind being the reality and brain process the mode in which it is objectively apprehended as matter. The conclusion respecting *the survival of consciousness as we know it* after dissolution of the body is that if consciousness is the resultant of an enormously complex organization of units of that immaterial entity which is the real universe and which manifests itself objectively to science as matter, then when that particular organization has become disintegrated by death, the mind itself must cease to exist.—*H. Helson* (Kansas).

2487. **Rickman, J. Index psychoanalyticus, 1893–1926.** London: Hogarth, 1928. (International psycho-analytical library, No. 14.) Pp. 276. 18/.—4739 titles are listed alphabetically by authors. The preface (in English, French and German) indicates the following as the criteria for inclusion: (1) all papers in the six principal journals; (2) all books stocked by the three principal analytic publishing organizations; (3) all references supplied by members of the International Psychoanalytical Association in reply to a circular letter; (4) most books and papers mentioned in the psychoanalytical periodical literature. The compiler makes it plain that the inclusion of a title is no guarantee of its worth or even of its acceptance as belonging to psychoanalysis, since the main object is reference only. Lists of translators and journals are included. Although most titles are in English and German, there are also references in Danish, Dutch, French, Hungarian, Italian, Polish, Russian, Spanish and Swedish. Freud's bibliography goes back to 1877, and Jones has one paper in 1927.—*R. R. Willoughby* (Clark).

2488. **Taylor, W. S. A demonstration of suggestion and involuntary imitation for the classroom.** *Psychol. Rev.*, 1928, **35**, 167–171.—A description of the author's method for illustrating suggestion and imitation to a class, using members of the class themselves as subjects. No apparatus is required.—*H. Helson* (Kansas).

2489. **Titadani, K. The effects of alcohol on the body and mind.** *Jido Kenkyu-sho Kiyo* (Summary report of the Institute of Child's Study), 1925, **8**.—The physiological effects of alcohol were studied with rabbits, guinea pigs, dogs, and goats. With 8 human subjects psychological tests were further added. With animals ethyl alcohol was introduced either orally or hypodermically; methyl alcohol was also tried in a few cases. The chief effects are as follows: (1) Decrease in the number of red-cells. (2) Decrease in the types of white-cells. (3) Polymorphs decreased slightly; lymphocytes decreased markedly. (4) These effects on blood cells were maximum 2 hours after the introduction of alcohol; 4 hours afterward, the cells became almost normal. (5) With rabbits 3 c.c. of alcohol per 1,000 gm. body weight decreased both red and white cells; 8 c.c. decreased white cells, but increased red cells; 10 c.c. killed the animals. (6) Resistance of red cells against hypotonic saline solution was weakened. (7) Decrease in red cells after alcoholic introduction seemed to be due to vaso-constriction caused by the action of alcohol upon the vaso-motor center, so it is relative decrease in the periphery. (8) Increase in haemolysis in peripheral blood vessels was not demonstrated. (9) Resistance of red cells against alcohol was unchanged when 2 c.c. per 1,000 gm. body weight were given; it weakened progressively with the increase of the alcoholic intake. After 4 hours, however,

the resistance became normal. (10) Decrease in the resistance of haemoglobin against drugs. (11) Alcohol was distributed more in red cells than in plasma. (12) With the introduction of an acid or base, however, this distribution of alcohol between red cells and plasma was reversed. For psychological effects 8 human subjects were divided into two groups; each group served as experimenters as well as observers in turn. Five tests were given (chop-sticks, computation, dotting circles, cancellation, and substitution). The subjects were trained in these tests, and tested after imbibing of *sake* (Japanese wine). The test results were: (1) Chop-stick coordination was weakened. (2) Computation, dotting circles, cancellation, and substitution all became bad. (3) The worst effects were at the 2nd hour after imbibing.—*J. G. Yoshioka* (California).

2490. **Wichern, H. Sexualethik und Bevölkerungspolitik.** (Sexual ethics and policies of population.) Series *Arzt und Seelsorger*, No. 10. Schwerin: Bahn, 1927. Pp. 55. Rm. 2.10.—The author does not intend to guide the reader by way of moral precepts; he is on the lookout for new vistas on the basis of changed circumstances and knowledge. He prefaces his discussion with the most important facts of genetics and German statistics, as well as with the reasons for "the flight from the child." The core of the problem is the shaking of religious faith; birth control can be traced back to this fact. Although Wichern is aware of social measures, one should like to see emphasized the disappearance of incomes which make possible the vocation of a mother according to Pestalozzi, especially since women are employed with regard to cheaper labor. The author evaluates marriage as an ideal union. The neo-Malthusians with their slogan of birth control are misusing Malthus, who did not know yet that a higher civilization itself brings about the limitation of children. In this connection Wichern investigates the problem of over-population. Whoever believes in a divine mission is going to propagate consciously, while the rest are eliminating themselves. A part of the discussion concerns itself, from the Christian point of view, with the sterilization of feeble-minded persons.—*A. Römer* (Leipzig).

[See also abstracts 2366, 2466, 2530, 2532, 2533.]

NERVOUS AND MENTAL DISORDERS

2491. **Adler, H. M. Schizophrenic manifestations in prisoners. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 169–176.—Clinical classification into the groups described by Kretschmer was found possible, as borne out by the average measurements. The distribution of these physical types among convicts corresponded closely with that found by Kretschmer among schizophrenics and was quite different from that of the manic-depressive psychoses. The two physical types presented no significant differences in responses to the Kent-Rosanoff word association test. Diagrams and tables.—*I. H. Coriat* (Boston).

2492. **Amsden, G. S. Mental and emotional components of the personality in schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 133–138.—In the psychoneurotics, the constitutional psychopaths and the behavioristic deviates of other types, the personality shows a less distinct demarcation from that of schizophrenia. As the personality of an individual presenting any of these types of disorder takes on the malignant traits of dreaminess, shrinking from social contact, suspiciousness or stubbornness, in a somewhat commensurate degree the individual tends to take on, also, the characteristics of one or another type of schizophrenia.—*I. H. Coriat* (Boston).

2493. **Barrett, A. M. Hereditary relations in schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 67–93.—Statistical evidence and the results of the analyses of individual families in which schizophrenia occurs indicate that heredity is an important factor to be considered in the etiology of schizophrenia. The most frequent tainting factors in schizophrenia are psychoses, which are about three times greater than has been found in those who are not schizophrenic. Abnormal character occurs more frequently among the antecedents and members of the families of schizophrenic patients than in any other form of psychosis. Mental abnormalities occur much less frequently among the parents of schizophrenics than in the psychotic in general. Schizophrenia has its heaviest heredity-tainting in antecedents who are in indirect relationship to the patient. The evidence obtained from the application of Mendelian theories to the investigation of the heredity course of schizophrenia tends to indicate that the transmission of the factors for the creation of the *Anlage* to schizophrenia follows the course of a Mendelian recessive character. The factor that is transmitted seems to be of complex rather than a simple Mendelian character. Schizoid traits occur so frequently among the members of families in which schizophrenia exists, that it is suggested these may stand in some relation to the genetic cause of their disorder. The existence of polymorphous heredity in schizophrenia is neither proved nor disproved. There is no certain evidence that the heredity course in schizophrenia is in any way sex-linked. Family charts and tables. Bibliography.—*I. H. Coriat* (Boston).

2494. **Bowman, K. W. Endocrine and biochemical studies in schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 262–279.—The results of the investigation are not consistent with the constant presence of any definite endocrine disorder in schizophrenia and do not suggest that a simple glandular dysfunction of a constant type is an etiological factor in the disease. Many functional disorders, closely linked up with the endocrine system, are frequently found, showing that schizophrenia is not a specific endocrine disease but may arise on a number of different bases. A metabolic disorder of varying degree was constant and nearly always present, as manifested in functional gastro-intestinal disorders and a tendency towards a low basal metabolism. Tables. Bibliography.—*I. H. Coriat* (Boston).

2495. **Brahn, A. M. Zur Psychologie der schizophrenen Denkstörung.** (On the psychology of the disorder of thought in schizophrenics.) *Zsch. f. d. ges. Psychiat. u. Neur.*, 1928, **112**, 306–316.—In one typical case it is shown how strong a part intuitive (*anschaulich*) elements play in the thinking of schizophrenics. In normal persons these elements remain in the margin of consciousness; as compared with the conceptual-abstract elements, the intuitive elements are less valued and are held back. But the schizophrenic values the intuitive so highly that he may get elements intuitively from mere figures of speech, and build them into conceptual relations. For example, he may write "Deoutschland," because O stands for "Odem" (="Atem"=breath), and without this we should all be dead. Conceptual relationships or fusions are determined upon superficial, spatial-temporal or affective grounds. Since the principles of selection have lost their mastery, and any sort of relation suffices for the most far-reaching conclusions, the thinking has a leveling character. Further, it is katathymic, emotionally determined; as in magical thinking, the thought itself is believed to be all-powerful, and this leads to autism.—*S. Krauss* (Heidelberg).

2496. **Brill, A. A. The schizoid concept in the neuroses and psychoneuroses. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 31–43.—The schizoid and syntonic concepts of Kretschmer and Bleuler have greatly helped to clarify many psychiatric problems. These

concepts have explained and illuminated a number of puzzling questions in psychiatry. All neuroses may be grouped in the schizoid category and there is a certain relationship between schizoid mechanisms and narcissism. The schizoid concept throws light on the narcissistic phase of psychosexual evolution which psychoanalysis finds in all individuals, without however explaining why some remain fixed at the narcissistic level. Case reports. Bibliography.—*I. H. Coriat* (Boston).

2497. **Brown, M. The treatment of general paralysis by tryparsamide.** *J. Ment. Sci.*, 1927, **73**, 225–232.—Improvement was shown in the majority of cases of general paralysis treated, which had held already for over six months. The most significant features of the series of cases were disappearance of the psychoses, increase in weight, absence of seizures, and the conversion of listless, dull patients into useful units. The conclusion is drawn that a preliminary course of tryparsamide followed by malarial injection is at present the most rational method of treatment, particularly in the debilitated type of early paretic. —*E. F. Symmes* (Institute for Child Guidance).

2498. **Buckley, A. C. Observations concerning primitive reflexes as revealed in reactions in abnormal mental states.** *Brain*, 1927, **50**, (Parts 3 & 4), 573–578.—"In general, it may be stated that reflexes appearing earliest in order of functional development are apt to be the last to disappear in the process of functional disintegration. In a similar manner the last to be acquired are likely to disappear early in the course of the dementia. When inhibitory influences are removed as the result of functional disintegration, primitive reflexes control the types of response to such an extent as to make them stand out conspicuously." —*E. N. Brush* (Boston Psychopathic Hospital).

2499. **Campbell, C. M. On the definition or delimitation of the schizophrenic type of reaction. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 16–30.—The schizophrenic reaction is the way in which individuals of a certain type adapt themselves to the varied demands of human environment. Such individuals may present many varieties of psychotic and personality tendencies, depending upon variations in the individual endowment. One of the present tasks of psychiatry is to consider in detail the various types of personality and of the life situation and in the light of such analysis to study the individual psychosis. This promises more than a discussion of the whole group in a general way under the assumption that there is some unitary disease process lurking beneath protean manifestations. Should further clinical analysis reveal the existence of some unitary disease process, then the analysis of personality and situation will, as in general paralysis, have lost much of its practical importance, but in the meantime it will have contributed to our knowledge of human nature in general.—*I. H. Coriat* (Boston).

2500. **Davie, T. M. Tryparsamide therapy in general paralysis of the insane.** *J. Ment. Sci.*, 1927, **73**, 217–225.—"Tryparsamide is undoubtedly a most valuable therapeutic agent in general paralysis, and in allied neuro-syphilitic infections. Its marked tonic effect is unique and is produced early in the course of treatment. Tryparsamide arrests the progress of dementia and prevents paralysis. Mental improvement of some degree may be expected in almost every case. Decided mental improvement may occur long after treatment (e.g., six months). Serological improvement may occur a long time after the completion of treatment. In one case the cerebro-spinal fluid only became negative eighteen months later. Serological improvement need not accompany clinical improvement. (Three cases discharged showed no improvement serologically.) There seems no reason to expect untoward effects of a serious nature with weekly 3-gm. doses of this drug. It must be observed that these cases did not include any with disease of the optic tract, the presence of which is generally regarded as a con-

traindication to this mode of therapy."—*E. F. Symmes* (Institute for Child Guidance).

2501. **Drury, K. K. Ultra-violet radiation in mental hospital practice: a preliminary survey.** *J. Ment. Sci.*, 1927, **73**, 200–208.—Mental cases were paired with normal individuals and all subjected to ultra-violet radiation. "Of the mental cases, 36% showed an equal degree of reaction with the paired normal; 10% showed in a definite degree less reaction that the paired normal; 54% showed in a definite degree more reaction than the paired normal. With the exception of agitated melancholics and acute maniacs and epileptics, the majority of mental cases (treatment not being contraindicated by the physical state), will benefit by radiation, the mental gain being due to the improved physical state."—*E. F. Symmes* (Institute for Child Guidance).

2502. **Dunlap, C. B. The pathology of the brain in schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 371–381.—The changes in the brain in schizophrenia are not only inconstant and non-specific but they are such as may be found in any series of control cases. In other words, their significance for the disease process seems to be without importance.—*I. H. Coriat* (Boston).

2503. **Fleming, G. W. T. H. Introverted and extroverted tendencies of schizoid and syntonic states as manifested by vocation.** *J. Ment. Sci.*, 1927, **73**, 233–239.—A group of schizophrenic and manic case records were examined in an attempt to determine the relationship between vocation and the development of a type of biogenic psychosis. Inaccuracy of diagnosis and the pressure which environmental conditions necessarily exert on vocation were recognized sources of error. However, a marked tendency in certain vocations towards one or the other of these psychoses was found, and those vocations which are regarded as being introverted in character, such as students, chemists, etc., showed a large percentage of cases in the schizoid group; while those vocations regarded as being extroverted in character, such as shopkeepers, managers, etc., showed a large percentage in the syntonic group. Discrepancies were not satisfactorily explained, but it was suggested that the small incidence of certain vocations might account for them.—*E. F. Symmes* (Institute for Child Guidance).

2504. **Flügel, F. E. Huntingtonsche Chorea und Trauma.** (Huntington's chorea and injury.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1928, **112**, 247–251.—Flügel studied a case in which a 62-year-old man, after a serious accident with commotio cerebri, developed in the course of some months a typical picture of chronic progressive chorea, although there was no hereditary basis for it. The author then gathered from the literature 14 additional cases in which there was a relation between chorea and an injury. The ages range from 23 to 62 years. The interval between the accident and the disease varies from some months to 2½ years. The accident is in each case a head injury. In the majority of cases there is no hereditary basis. The author cites two additional cases of children from chorea families, in whom, after an injury, the disease developed earlier than in the rest of the family. On the assumption of a latent innate inferiority in the cases here presented, the hypothesis of a symptomatic chorea is not necessary.—*S. Krauss* (Heidelberg).

2505. **Freeman, W. Lipoid degeneration products in the thalamus and globus pallidus in schizophrenia with a note on calcification. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 382–389.—Fat, pigment and birefringent masses are probably present in greater abundance in the thalamus and globus pallidus in the schizophrenic than in the hypothetical normal individual. The amount is exceeded in obvious inflammatory and degenerative conditions. Intracellular fat appears precociously in the basal ganglia in schizophrenia. Of exceptional interest is the frequency with which cal-

careous degeneration of the walls of the blood vessels occurs in young schizophrenic individuals. A study of the lipoid degeneration products in the basal ganglia of schizophrenic patients reveals a well-defined though non-specific degenerative process. Tables. Bibliography.—*I. H. Coriat* (Boston).

2506. **Fulstow, M. Observations on the weight of the heart in schizophrenia and other mental disorders. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 310–320.—Hearts of psychotic cases grouped together undergo the same changes in weight with increasing age, as do those of sane persons. Schizophrenia is no exception to this rule, maintaining a middle course as compared with the other psychoses. Tables and curves. Bibliography.—*I. H. Coriat* (Boston).

2507. **Gregory, M. S. Alcoholism and schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 177–180.—In general, alcohol appears to play an insignificant rôle in schizophrenia. Alcoholic indulgence, however, in some cases seems to act destructively, by bringing out or accentuating latent schizophrenic tendencies; or it may tend to prevent or retard the full development of the psychosis, giving the individual an opportunity, as it were, to make an adjustment on an alcoholic level. Schizophrenic patients who drink are often mistaken for alcoholic psychoses and occasionally the reverse is true. With the exception of alcoholic deterioration, delirium tremens and Korsakoff's disease, the etiological rôle of alcohol in mental disease has been much overemphasized.—*I. H. Coriat* (Boston).

2508. **Hamilton, S. W. The treatment of schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 435–457.—Schizophrenia does not yield itself as an entity to treatment because the disease lacks specificity. Treatment in general is designed to promote as extensive a conservation of the natural interests, activities, ambitions and affections as may be possible. If the knowledge now at hand can be applied in increasing measure to the problem of children, it would seem that the incidence of this disease may some day be greatly diminished. A study of the personality of patients and the mechanisms of the disease is necessary. Nursing is important in the states of negativism, stupor and excitement. Occupation is one of the happiest developments of mental therapeutics. Psychoanalysis is helpful in developing insight, although opinions on the value of analysis differ. Social treatment is very important for the majority of cases. Bibliography.—*I. H. Coriat* (Boston).

2509. **Henry, G. W. Gastro-intestinal motor functions in schizophrenia. Roentgenological observations. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 280–291.—Definite changes in gastro-intestinal motor functions are found in schizophrenia. The changes are somewhat characteristic of the different clinical types. The more acute the psychosis, the more abnormal are the changes. The motor functions are normal in chronic deterioration cases, while the visceral reaction to intense emotions in acute cases is analogous to that observed in lower animals when experiencing fear, rage or other intense emotions. Bibliography.—*I. H. Coriat* (Boston).

2510. **Hofman-Bang, A. Ein Fall von Diabetes mellitus bei einem Patienten mit Schizophrenie.** (A case of diabetes mellitus in a schizophrenia patient.) *Acta Psychiat. et Neur.*, 1928, **3**, 23–35.—Earlier works have pointed to the possibility of a definite relationship between dementia praecox (schizophrenia) and diabetes mellitus. The article describes in detail what is said to be the first true case on record of such a definite relationship. Bibliography, mainly Scandinavian references.—*M. L. Reymert* (Wittenberg).

2511. **Hutchings, R. H., Cheney, C. O., & Wright, W. W. Psychogenic precipitating causes of schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 159–168.—From the personality

studies of schizophrenia, it was learned that difficulties of adjustment and conflicts arise which have prevented these patients from making proper adaptations, but there is little if any conscious recognition of the existence of these conflicts on the part of the one affected. The individual continues to struggle against his unconscious difficulties until a situation which he is unable to control arises in the environment. The precipitating cause is the agent which brings to the surface the previously submerged cravings, and the psychosis is the attempt of the individual to solve the conflict between these cravings and the standards of adult life. Frequently one observes a psychosis for which no definite cause can be assigned, particularly in long-standing cases and in those about which no adequate information is available. The schizophrenic often expresses a primitive type of thinking. Case reports. Bibliography.—*I. H. Coriat* (Boston).

2512. **Jelliffe, S. E. The mental pictures in schizophrenia and in epidemic encephalitis. Schizophrena (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 204–253.—A great contribution will be the coming to an understanding of some of the complexities of human behavior through analysis of the less complete dissolution of mental function in encephalitis. In the psychoanalytic discipline it is the so-called educated man who is the most difficult to dissect into his component parts. Bits of dissected-dissociated mental machinery are scattered all about in schizophrenia, for one who can read them. The encephalitis material offers an excellent half-way series of disorganizations which will offer much for analytic research. Bibliography.—*I. H. Coriat* (Boston).

2513. **Kennedy, F., & Stevenson, L. Your nerves and their control.** New York: Appleton, 1928. Pp. 179. $1.50.—A publication in the Appleton popular health series.—*L. M. Harden* (Clark).

2514. **Lewin, B. D. Histopathology of the endocrine organs in schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 390–400.—It is impossible to show that there is no connection between endocrine organs and schizophrenia. However, it is probable that most of the changes found were the result of intercurrent and chronic disease, especially tuberculosis. In several schizophrenic patients of advanced age free from tuberculosis, the singularly good preservation and youthful appearance of the testes deserves to be emphasized. Such changes as have been noted by other observers also appear to be the result of chronic or acute disease. Only when a large number of cases of schizophrenia in which the factor of intercurrent disease is completely absent have been collected and studied, will anyone be able to say that changes in the glandular organs are connected with this disease. Photomicrographs.—*I. H. Coriat* (Boston).

2515. **Lewis, N. D. C. Graphic art productions in schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 344–368.—Graphic productions are similar to dreams in their construction and mechanisms, particularly in their manifest and latent content. The drawings of schizophrenic patients often show a striking resemblance to the artistic attempts of primitives. The derived content, which is a constant feature, and rich in ancient symbols, furnishes a tremendous field and unlimited opportunities for much needed studies on the "collective unconscious." Through the analysis of the contents of these productions, an additional way of bringing to consciousness the underlying difficulties of the creator is developed in a manner that demonstrates the basic motives in these attempts to satisfy the individual instincts. The productions serve in the important process of objectification and in the socialization of conflicts. Pfister conceives that an artistic work acts in the solution of the conflict, and that its socializing character counteracts introversion and prevents the individual from being swallowed up by the ego. How-

ever, these imaginative solutions may fail entirely, or so much pleasure may be derived from their expression that the artist may avoid coming to actual grips with reality. Illustrations. Bibliography.—*I. H. Coriat* (Boston).

2516. **Menninger, K. A. The schizophrenic syndrome as a product of acute infectious disease. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 182–203.—Infectious disease in certain individuals breaks the integrative fabric of consciousness and releases a psychological regression of various degrees and types. These regressive pictures include all of the recognized "reaction types," but apparently most frequently the delirious and schizophrenic. The syndromes formerly designated "dementia praecox," "toxic-infectious psychosis," "amentia," and "confusional psychosis" are all included, the differentiation being in many cases neither possible nor useful. Schizophrenic types of regressions are relatively frequent and usually reversible, that is, the splitting tends to be benign rather than malignant. Bibliography.—*I. H. Coriat* (Boston).

2517. **Merzbach, A., & Riese, W. Sprachpsychologische Parallelen zu sprachlichen Iterativbewegungen (Palilalie).** (Linguistic psychological parallels to iterative movements (palilalia) in speech.) *Zsch. f. Völker-psychol. u. Soziol.*, 1928, **4**, 44–53.—A comparison of normal iteration in the Hebraic tongue with the iteration based upon neurological speech defects.—*J. R. Kantor* (Indiana).

2518. **Meyer, A. The evolution of the dementia praecox concept. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 3–15.—The evolution of the dementia praecox concept is traced from its earliest conceptions to the descriptive work of Kraepelin with deterioration as the central issue and to the later psycho-dynamic interpretations of psychoanalysis. The history of dementia praecox is really that of psychiatry as a whole. Definite progress in the psychopathology of the disease was obtained chiefly through a genetic-dynamic formulation, particularly the psychological mechanisms of narcissism, autistic thinking and ambivalence and more recently the growing tendency to emphasis on the ego organization. The constitution problem has also made important additions, such as the earlier sketches of the shut-in personality as a forerunner of the disease and more recently the determination of anthropological-constitution types of Kretschmer and also the heredity studies, with an insistence on recessive Mendelian characters. The present-day attitude toward dementia praecox is more largely undogmatic, with a formulation into which reaction-types based on psychobiological concepts, the factors entering into them, the prognosis and the therapeutic assets are given equal and relatively independent consideration, rather than, as formerly, towards an emphasis on terminal states of special deterioration. Bibliography.—*I. H. Coriat* (Boston).

2519. **Miller, E. Mental dissociation: its relation to catatonia and the mechanism of narcolepsy.** *Brain*, 1927, **50**, (Parts 3 & 4), 624–629.—A number of related conditions in which inhibitory processes are present are considered. The mechanism that can explain these phenomena must be a nervous system that cannot stand up to difficult situations as an integrated whole, but the reasons for the inhibitory mechanism must be sought in the biological realm of behavior. —*E. N. Brush* (Boston Psychopathic Hospital).

2520. **Mitchell, T. W. Problems in psycho-pathology.** New York: Harcourt, Brace, 1927. Pp. v, + 190. $3.50.—This series of lectures by an eminent British authority in mental medicine attempts to examine the foundations of medical psychology, to summarize the most important theories of the present day and to suggest the importance of abnormal psychology as a source of insight

into normal mental life. It begins with a brief historical survey of the study of abnormal mental states. The author points out the contributions to modern psychology made by medical men. His point of view regarding neural explanations for psychological events gives insight into his general attitude toward abnormal psychology. "Even if our knowledge of the structure and the workings of the nervous system were so complete that we could account for every detail of human behavior in terms of the reflex arc, we should not have learnt anything of psychology proper. Psychology is not a science of neural processes, nor is it the science of the mental accompaniments of the neural processes through which behaviour is effected. And in medical psychology, it is necessary perhaps more than in general psychology, to remember that it is a positive science, that it deals with what is, and not with what ought to be, or with what we think ought to be" (4, 5). The historical section traces the transition from mere description and classification of phenomena to the knowledge of causation or inward meaning of phenomena. This was first accomplished through the study of hypnotism and the establishment of the part played by suggestion in the induction of the trance and the control and direction of hypnotic phenomena. He carries the historical outline on to the work of Freud and his followers, whose doctrines he presents. The second chapter is headed *Freud and Psycho-Analysis*, and thereafter follow chapters on the theory of the libido, the ego in Freudian psychology, theory of the instincts, theory of the neuroses, the applications of medical psychology, and survey of the doctrines of medical psychology. In his discussion of instinct he says: ". . . we see that he [Freud] is concerned with more elemental tendencies of living creatures than those to which the term instinct is usually applied" (114). He then enlarges upon this. On page 119, the author introduces a discussion with: "Almost everything of importance contributed by medical psychology to general psychology has been acquired through the study of the neuroses."—*N. Fenton* (Ohio).

2521. **Monrad-Krohn, G. H. A few remarks on the question of dissociation between voluntary and emotional innervation in peripheral facial paralysis.** *Acta Psychiat. et Neur.*, 1927, **3**, 35–39.—It has long been a well-known fact that in facial paresis of central origin the emotional movements may suffer less or even be intact, whilst the voluntary (or intentional) movements show a marked paresis. Some years ago the writer succeeded in showing that in some cases of one-sided central facial parẹsis the emotional movements may even be accelerated and exaggerated on the paretic side, i.e., the side where the voluntary (or intentional) movements show distinct paresis. (*Brain*, 1924, **47**, part I). Sometimes in slight peripheral facial palsy the opposite kind of dissociation has been noticed: The patients will complain that only when they smile does their face show a marked asymmetry, which in other movements is not noticeable. The writer, who is professor of neurology at the University of Oslo, offers the following explanation for this seeming dissociation: A slight facial palsy may betray itself only in movements exceeding a certain range. Movements of a moderate range (the subliminal range) may not show any asymmetry at all, or only a slight degree of asmmetry, which would be noticeable to the experienced eye only. It is fairly easy to control the voluntary (or intentional) movements and keep them within the range where the asymmetry does not show (or does not betray itself to the inexperienced eye). But an emotional movement like the genuine smile (not a forced "social smile") is in itself not so easily controlled, and the stimuli eliciting this emotional expression are as a rule more apt to put the patient off his guard. The result is that the movement is not kept within the subliminal range; the asymmetry becomes apparent. This is, however, not a true dissociation between emotional and voluntary (intentional) innervation. The writer is

interested to learn the experiences and reactions of other neurologists having a possible bearing on his theory.—*M. L. Reymert* (Wittenberg).

2522. **Myerson, A. Hereditary relationship of feeble-mindedness and schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Ment. & Nerv. Dis. for 1925*, 1928, **5**, 94–99.—It seems to be unlikely that there is any biological connection between the two sets of conditions called schizophrenia and feeble-mindedness. The schizophrenic breaking up of the mental processes seems entirely different in nature from the original limited capacity of the feeble-minded. Bibliography.—*I. H. Coriat* (Boston).

2523. **Nathan, M. Un type particulier de syndrome de compensation.** (A particular type of compensation syndrome.) *Ann. méd.-psychol.*, 1927, **85**, I, 436–442.—Two cases are cited which show the opposite direction in which a compensation syndrome may appear. One case is excitable and searches for the affection that was denied her at home; the other is repressed and turns her affective life toward her confessor. Both cases indicate the extent to which maladjustment in later life is due to unsatisfactory home life during early childhood. These compensation syndromes seem to be less egocentric than the schizophrenoid cases.—*O. W. Richards* (Clark).

2524. **Orel, H. Zur Klinik der mongolischen Idiotie.** (A clinical study of mongolian idiocy.) *Zsch. f. Kinderhk.*, 1927, **44**.—Since mongolian idiocy represents a maldevelopment of the brain, it cannot be cured by any "hormone." A bad state of the internal secretions, so far as it is present, is only a secondary symptom. It is very difficult to establish any therapeutic effect whatever. Only a few individuals reach the age of puberty. Among 18 cases of death observed by the author, catarrhal diseases preponderated, and only one was a case of tuberculosis. Educability is poor. Walking is learned 1 to 2 years later than normal, in spite of a desire to walk. Far more irregular is the learning of speech; the spoken vocabulary is usually very meager, but word perception is comparatively good, as is also the memory. Melodies also are easily and gladly reproduced.—*W. Wirth* (Leipzig).

2525. **Parkin, G. G. Some observations on the study of the blood pressure in the insane.** *J. Ment. Sci.*, 1927, **73**, 240–246.—The object of the investigation was to see what results would be obtained from an examination of the blood-pressure of the insane if the observations were classified in a more detailed way than those of other writers. All forms of mental disease seemed to show that recent emotional reaction was the main cause of the increases of systolic pressure; the sooner the observation was made after the commencement of the excitement or agitation the more marked the rise, which, however, was transient; if the excitement or agitation were prolonged there would be a fall in the systolic pressure. In observations on male and female nurses, taken for the purposes of comparison, the tendency for emotional reaction at the time of observation to cause a rise in systolic pressure was shown in some instances.—*E. F. Symmes* (Institute for Child Guidance).

2526. **Partridge, G. E. A study of 50 cases of psychopathic personality.** *Amer. J. Psychiat.*, 1928, **7**, 953–973.—In a study of 50 cases (21 male and 29 female) diagnosed as psychopathic personality three main types are distinguished: (1) delinquent type, (2) inadequate type, (3) general incompatible type. In the patients' families in 24 cases psychopathic personalities in the direct line were identified or strongly indicated. In 13 cases there were signs of involvement of endocrine glands. In 21 cases there was either attachment to one parent or antagonism. In 32 cases where there had been marriages, there was conspicuous lack of good marital adjustment. There was little evidence of overt homosexuality, but detailed histories regarding sex life were not available, especially of the unmarried. In almost every case of the series there were feel-

ings of insecurity or inferiority. The "psychopath" has a tendency to resort to such reaction patterns as temper tantrums, sulks, and running away.—*B. Kendall* (Boston Psychopathic Hospital).

2527. **Paynter, R. H. The clinical psychologist at work.** *Person. J.*, 1927, **6**, 283–294.—A statement of the province of the clinical psychologist and his place in the mental hygiene movement.—*A. W. Kornhauser* (Chicago).

2528. **Pollock, H. M. Frequency of schizophrenia in relation to sex, age, environment, nativity and race. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 47–64.—Schizophrenia occurs more frequently and earlier in males than females. The disease is more prevalent in cities than in rural districts and also among the foreign-born than among the native population in both city and country. It is also relatively more frequent in some European races than in others and more prevalent among negroes than among whites. Tables and charts. Bibliography.—*I. H. Coriat* (Boston).

2529. **Pope, C. Motor tics.** *Med. J. & Rec.*, 1928, **8**, 436–439.—A tic is an involuntary, coordinated movement of psychic origin confined to muscles that ordinarily work together, and thus imitates volition. Tics are thus not spasms, though both may be psychoneurotic in origin. The movement, usually in the face, neck, or head, is rapidly executed, is intensified or recalled by excitement or embarrassment, and may be accompanied by emotional expressions in the face. Tics vary as to location, extent, violence, amplitude, frequency, and duration. Patrick favors a sensory foundation for the disorder, referring to the fact that movement gives the patient a certain sense of relief or satisfaction. Tics are found in persons of a high-strung nervous organization. They do not derange voluntary movements, they are often diminished by rest and diversion, are accentuated by self-consciousness or excitement, disappear during sleep, and occur very frequently in pampered children. "The adult ticquer is a polymorphous psychic defective, characterized by mental infantilism." French psychologists believe the movements are defensive and protective, expressing mimicry. The Freudians regard them as representing compulsion neuroses, "symbolical representations of repressed tendencies of infantile origin. . . . In a tic we see the method by which the individual has met a difficult situation and solved it in a pathological habit." Adler regards a tic as a compensation for organic inferiority; it may be somatic or psychic in nature. The treatment of tics may be either surgical or psychological, but "it must be distinctly understood that surgical removal of any defect must not be counted upon to cure or even aid the tic." In children's cases an objective study is to be urged upon the patient, and the replacement of the harmful imitation by a wholesome one is recommended.—*R. C. Givler* (Tufts).

2530. **Raecke, —. Psychiatrisches zur Zuhälterfrage.** (Psychiatry and the question of the pander.) *Psychiat.-Neur. Woch.*, 1928, **30**, 79.—Section 309 of the draft of a general German penal code threatens the activities of the pander with specially heavy punishment. As having a bearing on this, Raecke reports 9 cases in which the panders included the most various elements. Of the 9 cases, 3 were excitable psychopaths, two of these being dangerous criminals. In case 1 there was a good endowment; in case 2, a suspicion of schizophrenia. Cases 7 and 8 are pronounced criminals; case 7 has a dull, indolent personality; case 8 shows psychopathy; case 9 is a visionary. Since the mentalities are so diverse, Raecke calls for a more careful discrimination of the individual motives and the other conditions in the case of each pander.—*P. Plaut* (Berlin).

2531. **Raphael, T., Ferguson, W. G., & Searle, O. M. Constitutional factors in schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 100–132.—A study of the relationship of personality and psychosis to body type, according to Kretschmer's investigations.

From analysis of the data, assuming that the factors of race and age may be disregarded, it appears that in schizophrenia a rather definite type-trend of soma obtains, differing in its nature strikingly from that occurring in the manic-depressive psychoses. This body organization on the whole tends towards the linear cast of habitus, with a relatively small, narrow face and head and a long, narrow, shallow and less capacious type of trunk. This specificity of morphology may correlate with an equally specific type trend of physiology and by that perhaps shed a certain light upon the quality of personality underlying psychoses. Kretschmer's hypothesis seems to be essentially valid in spite of possible criticism which may be raised relative to his method and classification. Tables. Bibliography.—*I. H. Coriat* (Boston).

2532. **Rothenhäusler, O. Charakterologische Kriterien zur Psychopathologie.** (Characterological criteria in psychopathology.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1928, **112**, 275–278.—The criterion of the abnormal personality, according to the author, is the "forcible entry of the unconscious." The repression boundary is no longer intact, and this brings danger of a breaking up of the personality. The nervous person is still able, by repression arrangements, to build the personality. But the patient who is a distinct psychopath succumbs to the domination of the unconscious, he is characterologically chaotic-irrational, his psychic-collective functions are weak, his feelings of responsibility and guilt have wasted away, "he no longer has any conscience." The author explains lying as forced projection. In consideration of the possibility that lingering psychoses may pass unrecognized, the author interprets very broadly the concept of irresponsibility. He demands detention institutions and the giving up of resentment on the part of society before we venture to punish the unconscious.—*S. Krauss* (Heidelberg).

2533. **Schilder, P. Psychologie der Schizophrenie vom psychoanalytischen Standpunkt.** (Psychology of schizophrenia from the psychoanalytic standpoint.) *Zsch. f. d. ges. Neur. u. Psychiat.*, 1928, **112**, 279–282.—Schilder's paper, read at the annual meeting of the Deutscher Verein für Psychiatrie in Vienna in 1927, is a polemic against the preceding paper. The experience of loss of the world in schizophrenia is explained as withdrawal of the libido from the world; the libido is directed to the body narcissistically. The complete expression thereof is the catatonic stupor. Previous to the total alienation, there are attempts to cling to the world, and these are carried out according to the stages of childhood sexuality, perhaps anal-erotic or homosexual or totemistic. Also the attempts to win back the world proceed through the sexual stages of childhood. In schizophrenia the ideal-ego undergoes changes in which old identifications are lost and replaced by new ones. For the individual development of the schizophrenic picture, the course of libido development in childhood is the standard. In opposition to a merely formal view, Schilder places the life problem of the schizophrenic in the foreground; for a comprehension of this we must rely upon Husserl's phenomenology. And in opposition to writers who posit primary symptoms (such as delusion) which are not further traceable, Schilder believes it feasible to trace the psychogenesis of schizophrenia also in connection with an organic-biological standpoint. Anyhow, it is false to regard the schizophrenic imagery as statically secluded.—*S. Krauss* (Heidelberg).

2534. **Schwab, S. I. Changes in personality in tumours of the frontal lobe.** *Brain*, 1927, **50**, (Parts 3 & 4), 480–485.—A plan is outlined for the analysis and description of the personality especially adapted for clinical use in cases of frontal tumors.—*E. N. Brush* (Boston Psychopathic Hospital).

2535. **Smith, J. F., & Hill, H. G. The blood sugar curve in cases of de-**

mentia praecox. *J. Ment. Sci.*, 1927, **73**, 265–269.—*E. F. Symmes* (Institute for Child Guidance).

2536. **Strecker, E. A., & Willey, C. F. Prognosis in schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 403–431.—The chief considerations in prognosis are race, history, personality, pre-psychotic somatic status, precipitating situation, onset and the psychical and physical phenomena of the psychosis. Close study of the personality often furnishes a helpful prognostic guide. The precipitating situation must be considered in all its aspects, particularly the transitional stage from reality and sanity to unreality and mental disease. Catatonia has a widespread distribution and is not peculiar to schizophrenia. When the psychosis as a total reaction constitutes an escape and a psychotic correction of serious circumstances in life, then the prognosis may be favorable even though the clinical symptoms are not promising. Case histories. Bibliography.—*I. H. Coriat* (Boston).

2537. **Sullivan, H. S. Affective experience in early schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 141–158.—Both from crude observation and from detailed study of the facial expression, the alleged indifference, apathy and emotional disharmony of the schizophrenic patient are more a matter of impression than a correct evaluation of the inner experience. The study of inner affective experience is urgently indicated if the nature of the schizophrenic process is to be elucidated. Attempts along this line do not seem to have produced valid results, owing largely to the susceptibility of schizophrenic patients to disturbing delusional reactions. In order to prevent interference by such reactions considerable variation from ordinary psychological technique is required. An elaboration of apparatus and technique was undertaken to the end that study of the fine movements and tonic postures of the facial muscles (particularly of the perioral group) may be correlated absolutely in time with alterations in the electrical conduction of the body—the psychogalvanic response—a phenomenon known to be related very simply and uniformly to affective experience. In addition it is planned to supplement these records with phonograms in some cases, with pulse tracings in some, and perhaps with respiratory records. Finally, an effort is made to reduce distracting factors, and to insure definite timing of stimulus reception, as well as the integrity and simplicity of sentience "conveyed" to the subject, by the use in selected cases of purely visual stimulus in place of the verbal and the autochthonous. Bibliography.—*I. H. Coriat* (Boston).

2538. **Syz, H. C. Psychogalvanic studies in schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928. **5**, 292–309.—The instrument used was a Hindle string galvanometer of the type employed for electrocardiography. Galvanic records of individuals of the same reaction-type showed, in spite of complicating circumstances (influence of local conditions of the skin, nervous influence not directly dependent upon mental states, etc.), features which were typical and fairly consistent. The psychogalvanic phenomenon is of assistance in an objective, experimental discrimination and characterization of some of the outstanding psychopathological reaction patterns. Curves, diagrams and records illustrating different types of reactions in normals, depressive, and catatonic and paranoiac schizophrenics.—*I. H. Coriat* (Boston).

2539. **Szondi, L. A fogyatékos értelen.** (Defective intelligence). Budapest: Magyar Gyógypaedagógiai Társaság, 1925. Pp. 364.—(Dedicated to P. Ranschburg.) The author studies functional defects of intelligence from the standpoint of the constitution, and in a synoptic outline he threats the rôle of the endocrine glands and compares their significance with that of the nervous system in the pathology of intellectual defects. Part I deals with the rôle of defects

in the growth and structure of the brain, and of the various blood glands in the pathogenesis of oligophrenia. Part II endeavors to produce some order out of the chaos of views and statistics in regard to heredity and transmission. The determiniation of reciprocal relations between intellectual defects and degeneration is new. Part III deals with prophylaxis. Psychologically new contributions are found especially in the section concerning the mental life of dwarfs. The author's precise anthropological, endocrinological and psychological investigations show that infantile dwarfs (nannosomia infantilis) are mostly individuals of normal intelligence, but their mental development is disproportionate in that the thinking self is like that of mature adults; the emotional life and the instincts correspond to those of children 4 to 5 years old. Their mental disproportionality tallies with their defective proportions in the bodily sphere, which can be demonstrated even in those individuals who heretofore have been falsely called well-proportioned dwarfs.—*P. Ranschburg* (Budapest).

2540. **Thomas, W. R., & Lascelles, W. J. The haemoclastic crisis in mental defectives.** *J. Ment. Sci.*, 1927, **73**, 246–254.—*E. F. Symmes* (Institute for Child Guidance).

2541. **Thornval, A. Menière's disease.** *Acta psychiat. et neur.*, 1927, **2**, 39–82.—In spite of many case histories and much research, almost everyone has his own theory about Menière's disease, dating back to 1861. A few seemingly typical cases from earlier literature are mentioned. The author has investigated this disease in 26 men and 11 women and finds it to be nearly twice as frequent in men as in women and to occur most frequently in men between 40 and 60 years of age. All the cases showed signs of an ear disease, which in 29 cases was unilateral and 8 cases bilateral. The most characteristic symptom of this disease is the subjective sound, which the patients most frequently describe as a continual buzzing. On the basis of case histories, supplemented with tables and graphs, Thornval arrives at the following conclusions in regard to characteristic features in the acoustic affection: (1) The acoustic affection is in the majority of cases unilateral. (2) Strong subjective sounds are heard before the affected ear. (3) The bone conduction is lowered. (4) The lower limit is moved upward, but the affection of the upper limit is not so pronounced as it often appears. (5) The patient often declares that he hears the sounds falsely, and this sometimes concerns the patient's own voice, which has a strange sound in the affected ear. (6) In most cases, the difficulty in hearing seems gradually to increase, although it may take years before total deafness occurs. The nystagmus observations during the attacks are summarized as follows: In the majority of the cases a rotatory or chiefly rotatory nystagmus toward the affected ear is found; less frequently there seems to be a horizontal, or essentially horizontal, nystagmus toward the sound ear. As soon as the attack comes to an end, the spontaneous nystagmus disappears entirely. The ear disease, the attacks of vertigo and the spontaneous nystagmus occurring during the attacks are the most striking characteristics of Menière's disease. Neurological examinations generally do not reveal anything striking, but the disease is very often marked by neurasthenic symptoms. The disease has nothing to do with syphilis. Systolic and diastolic blood pressure are normal. From the author's material the disease may last from ½ to 12 years. Pathogenesis, diagnosis and therapy are discussed, also in the light of modern literature. Bibliography of 60 titles, including Scandinavian contributions.—*M. L. Reymert* (Wittenberg).

2542. **White, W. A. The language of schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 323–343.—Schizophrenia is a regression psychosis. The thinking and language of schizophrenic patients is characteristic of earlier genetic levels, therefore in this disease, there is a reversal of language development. The language symbols are

consequently of a lower order of abstraction. This reversal of the law of development in schizophrenia accounts, in part at least, for hallucinations which have long been regarded as signs of schizophrenic splitting. The pleasure-pain principle needs to be considered in the understanding of certain forms of schizophrenic speech and the study of the oral zone is suggested as offering possibilities in that direction. The entire dynamic situation needs to be comprehended, but the main obstacle to this understanding has been, in the past, the magic of words. Bibliography.—*I. H. Coriat* (Boston).

2543. **Whitehorn, J. E. The effect of glucose upon blood phosphates in schizophrenia. Schizophrenia (dementia praecox).** *Proc. Asso. Res. Nerv. & Ment. Dis. for 1925*, 1928, **5**, 257–261.—*I. H. Coriat* (Boston).

[See also abstracts 2414, 2417.]

SOCIAL FUNCTIONS OF THE INDIVIDUAL

2544. **Braybrooke, P. Character and the author.** *Ethol. J.*, 1928, **13**, 17–26.—*F. M. Teagarden* (Pittsburgh).

2545. **Bühler, Ch. Sozialpsychologie.** (Social psychology.) *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 3–22.—A critical survey of the field of social psychology from the biological and sociological angles. Bibliography of 189 titles.—*H. Klüver* (Columbia).

2546. **Bundy, M. W. The theory of imagination in classical and mediaeval thought.** *Univ. Ill. Stud. Lang. & Lit.*, 1927, **12**, Nos. 2–3. Pp. 289. $2.00.—This book traces the development of the concepts of "phantasy" and imagination from pre-Socratic philosophy through Plato, Aristotle, the Neoplatonists, the early Christians, and the mediaeval philosophers to Dante's theory of vision, the final synthesis of mediaeval theories. The author's main interest is literary criticism, but since the great thinkers of classical and mediaeval times "brought to their thought about fine art the conclusions of the metaphysician, the psychologist, and the moralist," the book deals largely with epistemology, psychology, and ethics. Originally, "phantasia" meant an "appearance." It was at first regarded as something outside the mind, something corporeal. Later it was considered a state of mind, and was with difficulty differentiated from phenomenon, sensation, and impression. "The problem of *phantasia* for Plato and the Academy, the Stoics and the Sceptics was the problem of appearance and reality—metaphysical truth and error." Plato, who denied the reality of the visible world, relegated *phantasy* to the lower part of man's nature, but recognized that *phantasy* may aid reasoning. The eclectics of later classical and mediaeval times made many ingenious combinations of two opposing views, the idealistic and mystical tradition, founded by Plato, and the empirical tradition, deriving from Aristotle, who accepted the visible world and assigned to "phantasy" the function of mediating between sense perception and thought. The Stoics, Neoplatonists, and early Christians inherited from Plato a distrust of imagination, and strove for the control of *phantasy* and the supremacy of reason. The mediaeval mystics elaborated Plato's suggestion that dreams and prophetic visions are created in the mind by God. The book is rich in quotations from classical and mediaeval writers and in references to modern historical and critical studies. —*M. F. Martin* (West Springfield, Mass).

2547. **Bureau of Statistics, Tokyo Municipal Government. A report on suicides.** *Bulletin, Bureau of Statistics*, 1925, March.—During 1924, 664 men (54.45%) and 556 women (45.55%), 1,220 in all, committed suicide in Tokyo-fu

(Prefecture). As compared with the U. S. and European countries, the number of female suicides is very great. May had the maximum number; June, July, August, followed in order; February had the fewest. As to the methods, taking phosphorus was the most common one, followed in order of frequency by strangling, drowning, death with knives, train, electric car, morphine, lysol, jumping from a building, and shooting with guns. As to the ages, 21–30 years was the most dangerous period; as the age advanced above 30, the number of suicides became correspondingly less; no suicide was reported below 10 years. As to the causes, the most frequent one was depression due to prolonged or irrecoverable diseases; outburst of neurotic tendency, unhappy family life, and depression due to adverse circumstances followed in order.—*J. G. Yoshioka* (California).

2548. **Carpenter, N.—How the immigrant makes his living.** *Person. J.*, 1927, 6, 229–241.—Tables are given presenting the occupational distribution of some 500,000 foreign-born men and women. Two tendencies are noted: (1) the trend away from farming on the part of the newer immigrants, and (2) the well-defined preferences which certain ethnic and national groups have for particular occupations.—*A. W. Kornhauser* (Chicago).

2549. **Dawson, C. A. Population areas and physiographic regions in Canada.** *Amer. J. Sociol.*, 1927, **33**, 43–56.—In Canada there are four major areas of land settlement "singularly separated from each other by topography and by closely related cultural factors which make social distances great. The outer areas are not well accommodated to the prestige and power of the central area." —*E. A. Esper* (Washington).

2550. **Ellwood, C. A. Primitive concepts and the origin of cultural patterns.** *Amer. J. Sociol.*, 1927, **33**, 1–13.—Cultural evolution takes place through the invention and use by groups of "pattern ideas" which, by becoming embodied in the group tradition and objectified in language, tools, and institutions, become "cultural patterns." The sources of cultural patterns are the "instinctive tendencies" connected with nutrition, reproduction, and defense; the physical environment, the primitive group life, and primitive occupations. From the last-named source are derived the two fundamental patterns of hunting (developed chiefly by men), and child-care (developed chiefly by women). "Culture is the process by which the spiritual element in man is gradually transforming not only the material environment, but man himself."—*E. A. Esper* (Washington).

2551. **Geck, L. H. Sozialpsychologie im Auslande. Eine Einführung in die ausländische Literatur, vorzüglich im Hinblick auf die sozialpsychologische Systematik.** (Social psychology in foreign countries. An introduction to the foreign literature, especially in regard to systematization in social psychology.) Berlin, Bonn: Dümmler, 1928. Pp. viii + 120. Rm. 450.—This book is a by-product of attempts to make a survey of what has been done in the field of social psychology in order to establish points of departure for further scientific investigations. It intends first of all to serve as a guide to the literary sources, but not to study them exhaustively. Its form of presentation is that of a bibliographical report: the main line of the development of social-psychological research is traced and one is made familiar with the existing studies. At the same time, in order to offer more than a mere bibliography, the problem of social-psychological systematization is kept in the foreground of the exposition, and especially the relation of social psychology to sociology is gone into, all with literal quotations from the original passages in the footnotes. The concept of social psychology is taken in its wider significance, so that it includes, e.g., the field of collective psychology. Racial psychology is touched upon only occasionally and on account of the connections, because, fundamentally, it may occupy a place

beside social psychology, with which it perhaps forms a part of the psychology of the world around us (*Umweltspsychologie*) although it contains, no doubt, elements of social psychology. Thus the studies of the Frenchmen Letourneau and Boutmy are mentioned only in the footnotes, while the American Boas is mentioned briefly in the text. The sociological books likewise are not mentioned at all or only casually, even if they are based on social psychology, e.g., Palante, *Précis de Sociologie*, 6ième ed., Paris: Alcan, 1921. Of the studies which have appeared under the title "Psychological Sociology" or the like, only those are mentioned which are concerned chiefly with social psychology and less with sociology, as, e.g., the treatise by Raoul de la Grasserie.—*A. Römer* (Leipzig).

2552. **Gesemann, G. Sociologische und psychologische Zusammengänge in der Sagenforschung.** (The relations of sociology and psychology in legend research.) *Zsch. f. Völkerpsychol. u. Soziol.*, 1928, **4**, 19–43.—*J. R. Kantor* (Indiana).

2553. **Goldfrank, E. S. Isleta variants: a study in flexibility.** *J. Amer. Folk-Lore*, 1926, **39**, 70–78.—Study of variations in theme and plot of myths as told by the same Indian to two different persons.—*J. R. Kantor* (Indiana).

2554. **Gruehn, W. Die Theologie K. Girgensohns. Umrisse einer christlichen Weltanschauung.** (The theology of K. Girgensohn. Sketches of a Christian view of the world.) Gütersloh: Bertelsmann, 1927. Pp. 132. Rm. 6. Girgensohn shows everywhere the connection between science and religion. (He published his journal under this title.) His theological conception is that of the synthesis of an intuitively foreseen goal. Taking his contribution as a whole it is noticed that his *Weltanschauungssystem* belongs to the most important ones. Gruehn considers in this book especially the scattered publications of Girgensohn. He shows how a unified structure results from two fundamental factors, empirical investigation and scriptural principle. His outline is: the present spiritual situation; the problems according to Girgensohn; the solution. Girgensohn's aim was to follow up certain fundamental lines in transforming "the forgotten heritage of the fathers into modern forms of thinking." The mooring of dogmatism to the empirically demonstrable religious experience is characteristic for Girgensohn. He took the psychology of religion to be a science of facts in contrast to others. Very important is his attack upon the religious feeling; as we know, the living ego-relationship and the idea of God were in the foreground of his researches. After the analysis Girgensohn uses its results as the starting point for the epistemological critique of the validity of the claim of truth by religion.—*A. Römer* (Leipzig).

2555. **Hayes, E. C. Were Comte and Spencer wholly wrong?** *Amer. J. Sociol.*, 1927, **33**, 14–27.—Comte and Spencer taught that sociology should be a synthetic philosophy taking account of all factors conditioning human life. There has recently been a tendency on the part of biologists to overemphasize the biological antecedents of social life, and of sociologists to give exclusive attention to social factors. . Sociology must correlate *all* of the relevant data, so as to arrive at an adequate description of the essential antecedents of its phenomena (explanation), and of the results conditioned by these phenomena (evaluation). —*E. A. Esper* (Washington).

2556. **Holt, A. E. The ecological approach to the church.** *Amer. J. Sociol.*, 1927, **33**, 72–79.—The growth in size and development of methods of the church are determined largely by growth and shifts in population; and the conflicts of population groups give rise to many of the church's ethical problems. The task of religion is to help men to meet the emotional strains arising in connection with the great hazards of life.—*E. A. Esper* (Washington).

2557. **Kinast, E. Religionspsychologische Grundlegung.** (Fundamental problems in the psychology of religion.) [Ed. by G. Sperl.] Leipzig. Pp.

viii + 140. Rm. 5.—The Rev. Kinast, who was forced to retire early on account of physical illness, has devoted his investigations to the Christian assurance of truth (*Wahrheitsgewissheit*) and to the laying of foundations in theology. Since his death Sperl has looked through Kinast's manuscripts, most of which were ready for the printer, and has selected as especially suitable for publication the studies on individual psychology. The present book contains quotations of the most important passages from the works of writers on the psychology of religion. There are many references from general psychology, so that the book may be called a good introduction into the present state of research. The author has also indicated his own point of view in the organization of the material and in regard to certain details. In the concluding chapter the editor has adequately surveyed the investigations in individual psychology, among which he assigns the complex-psychology to the first place. In the case of the evaluations no apriori claim to immutability is made, but much more he would interpolate a natural situation in the development of the transsubjective reality. The editor opposes the opinions of modern empiricism, as to whether or not nature offers us a broader basis for undeniable evaluations, as everyone wants to have it. Between value and reality there exists no Chinese wall. If one cuts off the connection with reality, one immediately puts an end to ethical values. Sperl closes with a special summary of the belief problem and special investigations.—*A. Römer* (Leipzig).

2558. **Krische, P. Die sociale Schichtung der Erwerbstätigen im Zeitalter der Dampfmaschine und der Elektrizität.** (The social stratification of industrial workers in the ages of steam and electricity.) *Zsch. f. Völkerpsychol. u. Soziol.*, 1928, **4**, 11–18.—Study of German industrial statistics which shows the increased ratio of officials to workers in changing from steam to electrical industry. This points to a change in type of the proletariat.—*J. R. Kantor* (Indiana).

2559. **Mason, J. A., & Espinosa, A. A. Cuentos de brujas y del diablo.** (Tales of witches and the devil.) *J. Amer. Folk-Lore*, 1927, **39**, 304–369.—*J. R. Kantor* (Indiana).

2560. **McKenzie, R. D. The concept of dominance and world-organization.** *Amer. J. Sociol.*, 1927, **33**, 28–42.—Child has pointed out that social groups seem to develop spatial pattern forms similar to those of organismic pattern, living units becoming integrated in a dynamic relation of dominance and subordination. This same relation is even more striking in communal pattern than in social behavior pattern. All the spatially fixed aspects of communal structure, such as roads, homes, factories, institutions, become integrated into rather definite pattern forms with the relation of dominance and subordination as the dynamic organizing principle. "The development of communications is rapidly transforming the world from the small, undifferentiated, symmetrical unit of spatial distribution into the highly centralized and specialized axiated pattern."—*E. A. Esper* (Washington).

2561. **Mendes-Corrêa, A. A. La dispersion de l'homme sur la surface terrestre.** (The dispersion of man over the surface of the earth.) *Scientia*, 1927, **42**, 201–214.—After a discussion of the evidences which show what might have been the causes and mechanisms of primordial dispersion, the geographic center, or centers of anthropogenesis, and the routes of dispersion, there is a discussion of the dependence of the solution of this problem upon allied studies, as yet far from complete.—*R. G. Sherwood* (Stillwater, Minn.).

2562. **Orton, W. News and opinion.** *Amer. J. Sociol.*, 1927, **33**, 80–93.—The mechanical development and expansion of circulation of newspapers has not resulted in the development of an informed public opinion, nor is there much hope that such an opinion can be relied on to determine capital issues in an adequate manner. "The education of 'special publics'—as for example by the

Foreign Policy Association—is a promising development."—*E. A. Esper* (Washington).

2563. **Palluch, J. Die sittliche Einsicht männlicher schulentlassener Fürsorgezöglinge in ihren Beziehungen zum sittlichen Verhalten sowie zur allgemeinen intellektuellen Entwicklung.** (The ethical insight of young male delinquents in relation to moral behavior and mental development.) *Zsch. f. angew. Psychol.*, 1928, **30**, 1–80.—Young delinquents, 14–20 years old, were measured indirectly for their moral level by a modification of the Fernald method of ranking altruistic or asocial actions. The ethical test required an order of merit ranking of lies, bad deeds, and good deeds, presented in interesting story form and disguised as a lesson in literature. Responses were matched against those of 67 normal youths and correlated with an intelligence test (absurdities-detection) and their moral behavior as judged by supervisors. The three ethical tests correlated slightly with each other, but a correlation of about .60 between intellect and ethical insight was obtained. The imperfect correspondence between intelligence and rating for ethical behavior is explained by the fact that socialized motivation demands volitional and feeling elements which are absent in many individuals whose cognitive ability is otherwise adequate.— *A. T. Poffenberger* (Columbia).

2564. **Pfennigsdorf, E. Der religiöse Wille. Ein Beitrag zum psychologischen Verständnis des Christentums und seiner praktischen Aufgaben.** (The religious will. A contribution to the psychological understanding of Christianity and its practical problems.) (2nd ed.) Leipzig: Deichert, 1927. Pp. xii + 321. Rm. 14.—Pfennigsdorf, the editor of the journal *Der Geisteskampf der Gegenwart*, presents a new edition of his work on psychology of religion, which first appeared in 1910 and which received much notice on account of a tendency just then beginning in Germany. It was the first sizable monograph on the psychology of religion in German. The author's standpoint is in contrast to the American method of natural science. He thinks it necessary to supplement through introspection the method which collects. Thus he finds that such a supplementary and controlling introspection is also necessary as regards Girgensohn's method. Although the close contact with facts is favorable for Girgensohn, his method breaks down at the specific experience of the "Should." Of course, the author had also to reject Barth's position. The psychological experience of faith is not faith itself, but as a conscious phenomenon it is an indication of that transcendental reality. As stated in the introduction, he wishes to show the connection between faith and the normative spiritual life. It appears that really living faith is based everywhere on normative necessity which has unconditional validity. As in logic and ethics, so we have also in religion a fundamentally different kind of causality from that of natural phenomena. In considering the will the author hopes to fill in a gap in psychology of religion, since phenomena of the will have often been neglected in favor of mysticism. (Thus the living faith of the prophets and faith in the New Testament as a conscious acceptance of the giving and demanding divine will has often and erroneously not been recognized as primarily a matter of will.) Christianity is not concerned with the feeling of dependence or submersion, but with obedience to imperatives which assert themselves on the basis of the divine word in the depths of the activity of a personal will.—*A. Römer* (Leipzig).

2565. **Poole, W. C. Distance in sociology.** *Amer. J. Sociol.*, 1927, **33**, 99–104.—Distances may be classified as personal distance and social distance; each of these has a subjective form, the individual's or group's conception of its relation to another individual or group; and an objective form, the actual differences between individuals or groups. Each kind of distance gives rise to accommodation, and these are forms of socialization.—*E. A. Esper* (Washington).

2566. **Redgrove, S. Madness and mysticism.** *Ethol. J.*, 1928, **13**, 30–32.—Mysticism is allied to genius rather than to madness, as common opinion has it. —*F. M. Teagarden* (Pittsburgh).

2567. **Schneersohn, F. Neue Wege der Sozialpsychologie.** (New paths of social psychology.) Halle: Marhold, 1928. Pp. 79.—(With an introduction by P. Plaut.) This pamphlet is the first one of a series entitled *Beiträge zur Massenpsychologie* (Contributions to mass psychology), edited by P. Plaut. It contains the following chapters: I. Methods of investigation in social psychology; II. Suggestion and imitation as sterile fictions of individual and social psychology; III. The criticism of the theory of psychic infection and the objective theory of assimilation (*Aneignungslehre*); IV. The naïve anthropomorphism of social psychology and the primary mass creation (*Massenschöpfung*); V. Social-psychological reality. The author combats the misty good-for-everything concept of suggestion as an entirely unsuitable means to explain the phenomena of social psychology. Many cases are nothing but associative reactions, that is, meaning and purposeful connections between phenomena and their effects as determined by experience (p. 30). The author emphasizes especially the meaning of mass structure. Socio-psychopathology is not a normative but a description science (p. 54). The theory of mass assimilation must therefore be objective-empirical in essence. The specific structuralization of the mass is governed by two principles, that of natural selection and that of structurally unequal participation. In the mass as well as in the more stable union of society normal consciousness is chiefly active in normal times, created by the relatively constant interests of the struggle for existence; however, in special times of transition we see the appearance of intuitive-affective, social-intimate (*sozialsphärisch-intimes*) and primitive life.—*O. Seeling* (Berlin).

2568. **Sorokin, P. A. Experimente zur Soziologie.** (Sociological experiments.) *Zsch. f. Völkerpsychol. u. Soziol.*, 1928, **4**, 1–10.—Author reports on altruism-tests. Members of six sections of sociology were asked to contribute to three causes, (1) to buy diagrams and calculating machines for their own department, (2) to help Minnesota University students impoverished by floods, and (3) to help Chinese and Russian students. Totals show most money contributed to least necessary cause of own group, and least contributed for most necessary distant group. Another test for relation between altruistic action and expression of altruism. Results show 50% of students display a noticeable deviation between the two, and only 27% act according to their words.—*J. R. Kantor* (Indiana).

2569. **Vidgery, A. G. Fundamental traits of Indian religions.** *Scientia*, 1928, **43**, 179–190.—*R. G. Sherwood* (Stillwater, Minn.).

2570. **Werner, H. Über allgemeine und vergleichende Sprachphysiognomik.** (On general and comparative physiognomy of language.) *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 184–186.—Cards with printed words are shown to subjects who have a keen appreciation of the physiognomic qualities of words and sentences and can report on them. Some of the problems of the "general physiognomy of the word" are for example (1) the determination of the difference between the word as "sign for a concept" and the word as "physiognomic expression"; (2) physiognomic differences between synonyms and homonyms; (3) the physiognomy of grammatical categories. The "comparative physiognomy of language" is concerned with the fact that corresponding words in different languages (e.g. Seife, savon) have different physiognomic values. Experiments on physiognomically gifted Frenchmen and Russians are being carried on in the Hamburg Psychological Laboratory.—*H. Klüver* (Columbia).

2571. **Wirth, L. The ghetto.** *Amer. J. Sociol.*, 1927, **33**, 57–71.—The Jews, in so far as they are a separate ethnic group, are a product of ghetto life. "As

the Jew becomes conscious of his subordinate position in the ghetto he flees, but he is pursued by fellow-Jew until his new habitat assumes the atmosphere of the ghetto itself. In the course of his migration his personality changes as the culture of his group fuses with that of the larger world outside."—*E. A. Esper* (Washington).

2572. **Zimmerman, C. C. The migration to towns and cities. II.** *Amer. J. Sociol.*, 1927, **33**, 105–109.—"This study, based on 694 farm families of Minnesota, appears to show that children of successful farm families stay on the farms more often, while those of the less successful families migrate to large industrial cities and enter the ranks of the wage-earning classes."—*E. A. Esper* (Washington).

[See also abstracts 2350, 2420, 2435, 2466, 2467, 2474, 2479, 2483, 2484, 2488, 2490, 2491, 2517, 2530, 2596, 2604, 2605, 2643.]

INDUSTRIAL AND PERSONNEL PROBLEMS

2573. **Anderson, V. V. A psychiatric guide for employment.** *Person. J.*, 1928, **6**, 417–441.—This guide was prepared to present a point of view and to sketch a type of employment procedure for the interviewers at R. H. Macy and Company. "We have in the interviewing situation a problem to be attacked similar to that presented to the psychiatrist in diagnosing the factors underlying his patient's behavior disorder and making a prognosis of the future outcome." The interviewer should know the jobs for which he is employing intimately and personally. His study of the applicant is to be a careful clinical inquiry which brings together all significant personal history data; which appraises the personality make-up ("the most important phase of the interview") with special attention to intellectual activities, motor characteristics, temperament, self-expression, and sociability; which goes into a consideration of home problems; and which makes use of results from psychological tests. The follow-up of new employees in the effort to aid their adjustments is even more important than the selection, and it is to be handled in the spirit of psychiatric case work.—*A. W. Kornhauser* (Chicago).

2574. **[Anon.] The Autumn Conference of the Personnel Research Federation.** *Person. J.*, 1928, **6**, 379–390.—The conference dealt with four topics: Research in susceptibility to accidents and accident reduction; study and measurement of leadership; the personal interview: its technique and reliability in fact-finding; discovery and measurement of mechanical abilities. Papers on each topic are summarized. Committees were organized to formulate plans of research in the first two fields.—*A. W. Kornhauser* (Chicago).

2575. **Bingham, W. V. The Paris Congress of Technopsychology.** *Person. J.*, 1927, **6**, 295–301.—Reports the major activities and the spirit of the conference held in October, 1927, in Paris. The content of some of the more important papers is summarized. As contrasted with applied psychology in America, psychotechnology in Europe is noteworthy both for the amount of earnest and able effort going into it and for its substantial accomplishments in industry and in vocational guidance. Plans of the "Association of International Conferences of Psychotechnology Applied to Vocational Guidance and to Scientific Management" are briefly described, including plans for the next conference to be held in Utrecht during September, 1928.—*A. W. Kornhauser* (Chicago).

2576. **Erschowitz, N. Zur Frage der Bewährung von Handgeschicklichkeitsproben.** (The question of verification of tests of manual skill.) *Psy-*

chotechn. Zsch., 1928, **3**, 23–26.—On the basis of his results the author analyzes examples—abilities and the like—where performance improves. The practical correlations change as a result of the improvement.—*F. Giese* (Stuttgart).

2577. **Hildebrandt, H. Zur Psychologie der Unfallgefährdeten.** (The psychology of people who have accidents.) *Psychotechn. Zsch.*, 1928, **3**, 1–8.—Reaction tests and simple testing equipment for drivers were employed. The investigator comes to the conclusion that it is not retarded reaction-time that produces accidents and persons of the sort who have accidents (in Marbe's sense), but that the tendency to have accidents is fundamentally brought about by danger situations growing out of varied causes of central origin—most of them unconscious.—*F. Giese* (Stuttgart).

2578. **Hogg, M. I. Occupational interests of women.** *Person. J.*, 1928, **6**, 331–337.—The author has used the Interest Report Blank and technique worked out by E. K. Strong, Jr., for the differentiation of vocational groups of men, to see if the same results can be expected with groups of women. She used his scoring method with groups of teachers, authors, business women, department store saleswomen, and stenographers. When the blanks were scored according to the interests of the teachers, it was found that the interests of the housewives and the stenographers were most closely similar to those of the teachers, and the interests of authors least similar. When the teachers' blanks were scored according to the interests of each of the other vocational groups, it was found that the overlapping was approximately the same.—(Adapted from *Person. J.*)

2579. **Kitson, H. D. Vocational histories of psychologists.** *Person. J.*, 1927, **6**, 276–280.—Data regarding male members of the American Psychological Association were analyzed for truths which might benefit those considering psychology as a career. Ages of the men ranged from 28 to 80, with the median at 46. 83% were in academic life; of these 7% were instructors, 9% assistant professors, 13% associate professors, 67% full professors, and 4% presidents. The typical professor among these psychologists received his bachelor's degree at 24, and his professorship at 37. Those who obtained the doctor's degree before marriage did so at the median age of 28 and married at the median age of 33. Those who married first did so at 28 and obtained the degree at 33. The first group became professors at 35 and the second at 38.—(From *Person. J.*)

2580. **Lewin, K., & Rupp, H. Untersuchungen zur Textil-Industrie.** (Investigations in the textile industry.) *Psychotechn. Zsch.*, 1928, **3**, 8–23.—The authors report some investigations dealing with tests for winders, sewers and embroiderers. A large array of simple test material is presented in pictures and the verification of the procedures is set forth. The results of the trial for the sewers and embroiderers were unequivocally good; in the case of winders, on the contrary, there was no close agreement but significant differences from the actual piece-work performance. Later studies of work revealed the causes for the discrepancy, which lay in the work technique of the persons selected, or, better, in the imperfect preparation of the tests which should have taken the technique into consideration.—*F. Giese* (Stuttgart).

2581. **Shellow, S. M., & McCarter, W. J. Who is a good motorman?** *Person. J.*, 1928, **6**, 338–343.—A rating system has been developed for securing reliable estimates of the efficiency of motormen by supervisors. The motorman is observed with respect to 17 specific points in his operation of the car, and on each point is given one of five carefully defined grades. Experimental ratings of one motorman by six supervisors were found to show good agreement.—*A. W. Kornhauser* (Chicago).

2582. **Slocombe, C. S., & Bingham, W. V. Men who have accidents.** *Person. J.*, 1927, **6**, 251–257.—This study reports some differences in proneness to accidents disclosed in the course of an inquiry made on behalf of a metropoli-

tan street railway system. Differences in ability to operate a street-car or motor-bus with safety were found to correspond with differences not only in training and in length of experience, but also in physical condition as indicated by blood pressure, and in skill in saving electric power as measured by automatic coasting recorders attached to the street-cars.—(From *Person. J.*)

2583. **Toops, H. A. The selection of graduate assistants.** *Person. J.*, 1928, **6**, 457–472.—An elaborate statistical method is developed (and illustrated) for combining a number of items of information concerning candidates into a single composite merit-rating.—*A. W. Kornhauser* (Chicago).

[See also abstracts 2558, 2598, 2602, 2605, 2644.]

CHILDHOOD AND ADOLESCENCE

2584. **Baldwin, B. T. The determination of sex maturation in boys by a laboratory method.** *J. Comp. Psychol.*, 1928, **8**, 39–43.—Spermatozoa were sought in 1136 specimens of the first urine excreted in the morning by 123 reform school boys between the ages of 9 and 17 years; they were found for 23.6% of the boys, beginning at age 11 and continuing to age 17. No spermatozoa were exhibited by 54 boy scouts, although 48 of these had had only from 1 to 4 analysis. 28 of the 29 showing spermatozoa showed also other signs, such as pigmentation and pubescence of axillae; 23 showed pubescence of the pubis. Four interesting questions are proposed for further investigation by the method. Three tables and two photomicrographs.—*H. R. Crosland* (Oregon).

2585. **Brereton, C. The character and education of the French child.** *Ethol. J.*, 1928, **13**, 5–11.—It is shown that the "French child has not been studied in France, either by the theoretical psychologist or by the novelist, to anything like the same extent as it has been in England, let alone in America." Children are practically non-existent so far as French literature is concerned, and there is also a paucity of literature *for* children in France. The young child there lives in an adult world largely, and is almost never put into situations with other children as is done in nursery schools in certain other countries. The effect of this environment is to make the child lack spontaneity and simplicity in large measure. Emphasis in French education is put upon the fact that the child is not so much an individual as he is a member of society and particularly of French society. Education is essentially social, and the school leaves to the home many of the functions which are assumed by public schools in other countries. Language training in all its aspects plays a large rôle in the education of the French child.—*F. M. Teagarden* (Pittsburgh).

2586. **Bühler, Ch. Die ersten sozialen Verhaltungsweisen des Kindes.** (The first social behavior patterns of the child.) *Quel. u. Stud. z. Jugkd.*, 1927, Heft 5, 1–102.—After an introduction in which she considers the present state of knowledge in social and general psychology, the author states her problem as the description of the earliest recognizable stages of social contact. Contact is first established about the second or third month, when the glance comes to rest on another child instead of passing over him as over an inanimate object; this is accompanied or shortly followed by sympathetic crying. About the third or fourth month infants begin to smile and make sounds at each other; there follows a short period of playing together, but each with his own concerns, followed at about the sixth or seventh month by the first use of each other's persons as play objects. The grasping stage which appears about this time leads to various forms of despotism, which becomes rivalry if the children are near the same age and strength; there are, however, plenty of instances of offering playthings to

another, and at eleven or twelve months this develops into cooperative play. The modifying effects of emotions and environment, including the reactions to the experimenter, are considered. The work was done in New York City on 146 clinic children, combined in about 100 pairs and a few groups of three. There are numerous tables, including temporal records of the separate reactions of each child and of the experimenter, and several photographs.—*R. R. Willoughby* (Clark).

2587. **Bühler, Ch., & Hetzer, H. Inventar der Verhaltungsweisen des ersten Lebensjahres.** (Inventory of the behavior patterns of the first year.) *Quel. u. Stud. z. Jugkd.*, 1927, Heft 5, 125–250.—69 Viennese children (4 to 7 in each month) were followed for a total of 1620 hours by the experimenters and their assistants; the conditions were kept approximately normal (40% of the group were observed in their homes) and as many as possible of the observations extended through the entire 24 hours. The reactions are divided into types (positive, negative, spontaneous, etc.) and units, and many extracts are presented from the original protocols. Several tables and diagrams are presented, the most striking being sector diagrams of the daily distribution of activities at successive ages. An appendix summarizes the behavior patterns in the order of their appearance.—*R. R. Willoughby* (Clark).

2588. **deWeerdt, E. H. The effect of malnutrition upon expression of intelligence.** *School & Soc.*, 1928, **27**, 540–541.—A report of an individual case. —*H. L. Koch* (Texas).

2589. **Doroschenko, O. Der Einfluss des Milieus auf den Inhalt und Aufbau frei entstehender Kollektive im vorschulpflichtigen Alter.** (The influence of the environment on the content and structure of spontaneous groups among pre-school children.) *Zsch. f. angew. Psychol.*, 1928, **30**, 150–167.—Observations were made on 114 children's organizations in two Kiev kindergartens, each containing 36 members. One school consisted mainly of children of soviet officials or the professional classes; the other was recruited from the proletariat. The professional group showed a majority of play games centering around revolutionary events and city life, while the proletarian group was exclusively devoted to playing house or mimicking factory work. The number of proletarian children participating in the group activities was never over eight, but in the professional group 75% of the games involved ten or more individuals. Their choice of play themes evidently conditioned this. It was also noted that the games of the officials' children lasted about twice as long as those from the other school. Likenesses recorded were: dominance of mixed sexes and ages in the play groups and relatively few leaderless games.—*A. T. Poffenberger* (Columbia).

2590. **Eckstein, A. Zur physiologie der Geschmacksempfindung und des Saugreflexes bei Säuglingen.** (On the physiology of the taste sensation and of the sucking reflex in infants.) *Zsch. f. Kinderhk.*, 1927, **45**, 1–19.—The mimetic movements after gustatory stimulation in infants have been erroneously regarded heretofore as expressions of psychic sensations and as a criterion of the taste sensation. For a criterion of the taste sensation it is more correct to use the sucking reflex. This is especially suitable for objective judgment because it can easily be graphically recorded. Eckstein made his experiments on prematurely born, normally new-born and older infants. As stimuli he used solutions of cane sugar, NaCl, quinin and lemon juice, each in varying concentration. He found that: (1) even in immaturely born children a differentiation of taste stimuli was present; (2) in general, all the babies reacted in the same manner to the same stimulus. The bitter stimulus, almost without exception, resulted in an inhibition of the sucking reflex.—*O. Seeling* (Berlin).

2591. **Gray, H. Weight, body diameters and age; correlation coefficients.** *Proc. Soc. Exper. Biol. & Med.*, 1928, **25**, 384–385.—This paper concerns the com-

mon weight-prediction table (based on height and age) used both for adults and for children. The material consists of 810 private school boys from 4 to 20 years of age. The correlations of stature and weight with age, bicristal diameter, and several other measurements are given. The main inference is that weight is less closely related to age than to certain bodily diameters, which therefore seem to the author to merit study with a view to substituting them for age in tables for prediction of normal weights.—*W. R. Miles* (Stanford).

2592. **Hetzer, H., & Reindorf, B. Sprachentwicklung und soziales Milieu.** (Development of language and the social environment.) *Zsch. f. angew. Psychol.*, 1928, **29**, 449–462.—The linguistic development of two groups of children—one from the professional classes and another from the laboring classes—was observed in the normal conditions of a day nursery. The poorer group comprised 65 infants, ranging in age from 9 to 30 months, whose language was recorded for 103 half-day periods. Where the utterances were purely instinctive, such as cries of hunger and pain, no difference in behavior was discernible. But in all other verbal activities the children from the laboring group lagged definitely behind the other, the degree of retardation being as follows: extent of vocabulary, 9–12 months; sentence usage, 4 months; first employment of inflections, 4 months; and in the use of different parts of speech, 6 months.—*A. T. Poffenberger* (Columbia).

2593. **Hetzer, H., & Tudor-Hart, B. H. Die frühesten Reaktionen auf die menschliche Stimme.** (The earliest reactions to the human voice.) *Quel. u. Stud. z. Jugkd.*, 1927, Heft 5, 103–124.—This experiment was performed upon 126 children, ages one day to five months, in various institutions in Vienna. A series of noises and a series of qualities in the human voice were used as stimuli. The frequency of all positive reactions rises rapidly during the first week from an initial value of 34% to about 50%, and then more slowly to about 78% at the end of the second month; later it decreases somewhat, due, the experimenter thinks, to the increasing dominance of vision. Reactions to the human voice are less than half as frequent as to noises at the beginning, but attain equality in the third or fourth week. Reactions are somewhat specific; the first pre-social reaction is sucking (third week) and the first social reaction smiling (second month). The mother's voice is not distinguished first, and the reactions appear to be without differentiation of the individuals furnishing the stimuli. Tables and photographs.—*R. R. Willoughby* (Clark).

2594. **Leland, B. Billy.** *Psychol. Clin.*, 1928, **17**, 29–32.—An account of the case of a boy, not feeble-minded, who has always had extreme difficulty with reading. He has been studied for eight years, during which time he has been given all sorts of special training with very little success. There is no morbid family history, but the siblings, of whom nine are living, have the same difficulty. The author thinks the explanation may be a congenital defect of attention. She also suggests that possible glandular difficulties might be of importance.—*J. T. Metcalf* (Vermont).

2595. **Levy, D. M. Finger sucking and accessory movements in early infancy: an etiological study.** *Amer. J. Psychiat.*, 1928, **7**, 881–918.—From a study of dispensary and private cases presenting the problem of finger sucking and also of a group of "unselected" children seen during a "Better Babies" conference, the following conclusions are drawn: the most frequent cause of infantile finger sucking and thumb sucking is insufficient lip movements; i.e., incompleteness of the sucking phase of the feeding act through spontaneous withdrawal from a too rapidly flowing breast or bottle, forced withdrawal at the end of a set period of time, or changing feeding schedules with increased intervals and diminished duration; unscheduled, untimed feedings, frequent though scheduled feedings, frequent night feedings; pacifiers occurred with greater

frequency in the non-finger sucking group; insufficient food appeared as a sole factor in the development of finger sucking in relatively few cases. The rational treatment of finger sucking is prophylactic: the use of methods to insure sufficient action of the lips during feeding.—*B. Kendall* (Boston Psychopathic Hospital).

2596. **Li, T. A., & Chang, T. F. Chart for estimating nutrition of Chinese children from height and weight.** (*Chinese*) *Educ. Rev.* 1928, **20**, 159–161.—Two tables giving the average weight corresponding to various heights for each age and two charts showing five zones from emaciation to obesity are presented upon the results of measuring 1500 Chinese children in Peking from 5 to 22 years of age.—*E. Shen* (China Institute).

2597. **Netschajeff, A. Psychologische Untersuchungen an Kindern im Alter von 4 bis 8 Jahren.** (Psychological investigations with children of four to eight years of age. *Zsch. f. angew. Psychol.*, 1927, **29**, 375–392.—529 Russian children were given ten tests, all simple modifications of the Binet series. Eight-year-old children made perfect scores on this material, and this enabled the author to trace the growth of special functions. The fourth and fifth years are marked by changes in memory and attention, the fifth and sixth by acceleration of the speech processes, the sixth and seventh by an enlargement of ordinary experience, and the seventh and eighth by the development of systematized experience. This series was given to 98 children from the famine-stricken provinces and the same subjects were retested after three months. It was found that children who were above the normal weight increased their average score by 21.6%, those who were normal 32.9%, and the subnormal 63.0%. The influence of nutrition on the intellectual life of children is striking.—*A. T. Poffenberger* (Columbia).

2598. **Neubauer, V. E. Ueber die Entwicklung der technischen Begabung bei Kindern.** (The development of children's technical talent.) *Zsch. f. angew. Psychol.*, 1927, **29**, 289–336.—Analysis of drawings of mechanical models by 500 boys and 350 girls from various German cities revealed the existence of three types: (1) schematic drawings or simple rough sketches giving a total impression; (2) drawings in perspective; and (3) work plans with details that could be followed in construction. Five-year-olds make schematic drawings exclusively; at nine perspective is added; and about twelve technical drawings appear. Combinations of objects involving power transmission appear about the tenth year with boys, supplanting mere spatial aggregates. Objects most frequently seen in the environment predominate in the drawings. Girls are distinctly inferior to boys in this work; they emphasize formal esthetic factors rather than technical details.—*A. T. Poffenberger* (Columbia).

2599. **Sasaki, T. On the lead content in the brain of children died of meningitis.** *Jika Zatshi* (Journal of Pediatrics), 1925, No. 393.—By some authorities meningitis is attributed to lead poisoning. In order to test out this theory the brains of children who had succumbed to meningitis were analyzed. It was found that the lead content of these brains was 1.5–2.5% higher than that of other vital organs. Toys painted with lead paint were undoubtedly one of the channels through which lead was introduced into the children's bodies, but face-powder that the mothers used was also strongly suspected. 305 kinds of face-powder on the market were then analyzed, and it was found that four of the most popular brands contained lead to an appreciable amount. The study further proved that the children whose mothers used one of these poison face-powders succumbed to meningitis more often than the children whose mothers were more informed in the choice of face-powder.—*J. G. Yoshioka* (California).

2600. **Schmidt, A. Über die Beziehungen des Saugreflexes zur Magentätigkeit.** (On the relations of the sucking reflex to the activity of the stomach.) *Zsch. f. Kinderhk.*, 1927, **45**, 20–27.—The authoress made her investigations first

on 16 infants (normal or prematurely born) in order to study the psychic secretion of gastric juice. In agreement with the earlier studies of Rood Taylor she found, in almost all cases, after empty sucking, neither HCl nor pepsin in the gastric secretion. Then she studied 23 infants, namely 6 prematurely born and 17 infants ranging in age from 14 days to 18 months. Each child received the accustomed nourishment: on the first day, from a bottle; on the second day at the same hour, through the catheter; on the third day, the same, but with addition of one hour of sucking a non-perforated nipple. The method of feeding exerted no characteristic influence upon the gastric discharge. Thus it is seen that the act of sucking exerts no reflex influence upon the activity of the stomach. The hypothesis of a psychic stimulation of gastric activity is unjustified.—*O. Seeling* (Berlin).

2601. **Sell, L. Beschreibung eines normalen zwölfjährigen Knaben.** (Description of a normal twelve-year-old boy.) *Zsch. f. angew. Psychol.*, 1928, **29**, 463–532.—This is an exhaustive psychographic study of a Bavarian boy of good heredity, but poor circumstances. The intellectual phase of his personality was examined by means of almost a hundred tests taken from the Stern-Wiegmann manual, comparison being made with the performance of 40 boys of the same age. As a contribution to the methodology of differential psychology this monograph may lay claim to some attention. On the basis of such an exhaustive inventory it is unlikely that prediction will go far wrong.—*A. T. Poffenberger* (Columbia).

2602. **Valentiner, T. Arbeitspsychologische Feststellungen bei Kindern und Jugendlichen.** (Studies in work conditions among children and youths.) *Zsch. f. angew. Psychol.*, 1927, **29**, 337–374.—A series of miscellaneous studies. The first deals with the seating arrangement in the school room. Prolonged observation showed that class behavior is conditioned by the teacher's area of vision. Optimum attention was secured by having the seats extend more in depth than in breadth from the teacher. Another observation showed that the work of the preceding class hour is the chief factor determining attention in the following period. Students coming from a gymnasium or drawing class are hyperactive, and a preceding lecture affects conduct during a project and vice versa. In the vocational field, the author contends that observation of a candidate's behavior while executing some task is a better basis for predicting future competence than rating of the product. Despite the apparent subjectivity of this method it gave a better correlation for a thousand apprentices than the usual trade-test questionnaire.—*A. T. Poffenberger* (Columbia).

[See also abstracts 2417, 2452, 2468, 2616, 2658.]

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2603. **Allen, R. D. Creating right attitudes toward student achievement.** *School & Soc.*, 1928, **27**, 521–527.—*H. L. Koch* (Texas).

2604. **Anderson, E. J. Preferred enjoyments: how do mission college students "kill" time?** (*Chinese*) *Educ. Rev.*, 1928, **20**, 67–86.—A statistical analysis is made of data gathered by a multiple-choice questionnaire from 295 Chinese students at Shanghai College. The results show that the moving picture ranks first both in frequency of attendance and in preference regardless of opportunity. The classical Chinese play stands second in the order of preference, but practical inconvenience prevents it from being attended as frequently as the musical program. Orchestral concerts are preferred to vocal music, and modern Chinese

plays are much less popular than the classical drama. Probably due to the difficulty of language, foreign drama is very little appreciated. Among the various types of moving picture, historical films and educational and news films are better liked than other types, with comedies and wholesome romances only slightly less popular. Cowboy pictures and passionate love stories are regarded as inferior. The 55 women of the group show no deviation from the reactions of the men, except a greater interest in music and in foreign drama, attributable to a larger amount of foreign training prior to their entrance to college. There is very little significant difference between the upper and lower classes.—*E. Shen* (China Institute).

2605. **Bogen, —. Psychologische Grundlegung der praktischen Berufsberatung.** (Psychological foundation of practical vocational guidance.) Langensalza: Beltz, 1927. Pp. 450 + 78 illustrations. Rm. 11.—Bogen is the psychological expert of the city of Berlin, and one of the best vocational counselors in Germany. It is very interesting to find here put together for the first time the psychological foundation of practical vocational guidance, illustrated with practical examples. The book is divided into three parts. The first (general) part discusses the subject matter and the problems of psychology, the concept of differential and individual psychology, and the problems of a comparative method of investigation. The second part discusses the genetic and group problems. This aim is served by a sketch of the psychology of childhood, of school age, including puberty, and of the differences between the sexes. The third part is concerned with a chain of the most important single problems of vocational psychology. Among others there are reviewed the problem of heredity, the essence of individuality, the use of intelligence tests, ability and capability, vocational interest, the methods of job analysis, the psychological description of a vocation, the methods of guidance into a vocation, and the details of vocational testing. An additional chapter is devoted to the psychology of the vocational counselor, and there is also an appendix supplying the advisor with means for the application of the above mentioned methods. There is an index, and many pictures illustrate the text. The whole book serves the indispensable training of the vocational counselor on his field of applied psychology.—*F. Giese* (Stuttgart).

2606. **Briggs, T. H. Interests as liberal education.** *Teach. Coll. Rec.*, 1928, 29, 667–674.—"The man of liberal education is interested in more things, in a greater variety of things, and his interests are less superficial."—*H. H. Remmers* (Purdue).

2607. **Brooks, F. D. The relative accuracy of ratings assigned with and without use of drawing scales.** *School & Soc.*, 1928, **27**, 518–520.—The materials used in the study were 30 drawings of a house and 30 of a boy running which had been made by children in grades 4 to 9. The subjective appraisals of these drawings by 21 judges without any reference to a drawing scale were one-fourth as variable as those which would be assigned by mere chance. The use of a drawing scale decreased the inaccuracy of ratings to approximately one-half of what it was when no scale was used. The coefficients of variation of the ratings assigned by the Thorndike Drawing Scale were about 70% as large as those assigned by the Kline-Carey scale. The latter finding the author cannot satisfactorily explain.—*H. L. Koch* (Texas).

2608. **Denworth, K. M. The effect of length of school attendance upon mental and educational ages.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. II, 1928, 67–91.—A net total of 700 pupils from ages 9 to 12 inclusive in a single New York school served as the chief group of subjects. The following measures, obtained for each pupil, were intercorrelated: Stanford-Binet mental age, educational age on the Stanford Achievement Test, total days of school achievement, and chronological age. Chronological age was held constant through partial

correlation. School achievement proves to have a partial r of $.30 \pm .02$ with length of attendance, and .78 with mental age. The regression equation for predicting *standard* educational scores is

$$z_1 = .692z_2 + .171z_3 + .126z_4$$

wher z_2, z_3, and z_4 represent intelligence, school attendance, and age. Statistical treatment is also given for separate age groups as well as for the total group.—*B. S. Burks* (Stanford).

2609. **Foran, T. G. The present status of silent reading tests. Part I. The measurement of rate of reading.** *Catholic Univ. Amer., Educ. Res. Bull.*, 1927, **2**, No. 2. Pp. 27.—Tests of rate of silent reading should take into account various determinants of comprehension, such as "reading to note details, reading to observe the logical relations between ideas, reading to predict outcomes, reading for pleasure, etc." Rates of reading also differ according to the type of reading material, whether scientific, general, or the reading of poetry. The most frequently used tests are considered and analyzed as to their fulfillment of necessary requirements, after which the author concludes as follows: "The Monroe, Gates, and Burgess tests are the principal tests for the measurement of the rate of reading. There are certain advantages to the Chapman-Cook test, and this test proves quite satisfactory when coupled with a scale for comprehension. According to the evidence available, the new Gates tests appear to be very satisfactory and to have overcome many of the objections that have been urged against other tests. Tests of the Stone and Courtis type for the measurement of rate of reading fail in one of the major requirements of tests of this ability, namely to insure understanding of the material."—*O. L. Bridgman* (California).

2610. **Foran, T. G. The present status of silent reading tests. Part II. The measurement of comprehension.** *Cath. Univ. Amer., Educ. Res. Bull.*, 1927, **2**, No. 3. Pp. 51.—"Rate and comprehension in reading are not independent, for the former is merely an inseparable characteristic of the latter." General reading ability is regarded as "the average of as many specific factors as can be estimated." Reproduction tests are briefly described but are held to be unimportant. A consideration of various tests whose answers are obtained by means of multiple choice, completion, cancellation of unessential words, etc., then follows. After analysis and criticism of a considerable number of tests, it is concluded that there are no entirely satisfactory tests of reading comprehension. "For the measurement of rate of reading the Gates tests appear to meet the needs in the most satisfactory manner. Among the reading scales, the Stanford and the reading tests from the Lippincott-Chapman battery appear to be highly satisfactory. Other tests, such as the Chapman Unspeeded, the Haggerty and the Los Angeles, deserve consideration. The Thorndike-McCall, which is widely used, is not sufficiently reliable and discriminating, and the forms are of unequal difficulty." In conclusion there appear a set of seventeen principles governing the construction and use of tests of reading, considering form, scoring, reliability, standardization and other important items. The bulletin closes with a list of reading tests and scales, both for rate of reading and comprehension in reading. A bibliography is included.—*O. L. Bridgman* (California).

2611. **Greene, H. A., & Freden, G. Failures and double promotions in the elementary school.** *J. Educ. Res.*, 1928, **17**, 262–272.—Analysis of the records of 37,330 children in Grades I–VIII in Iowa, indicate that the "beginning of a child's school career is naturally the most dangerous for him as far as failure is concerned." The optimal spot for skipping is the second grade.—*S. W. Fernberger* (Pennsylvania).

2612. **Herrle, T. Das Präparieren der alten Schriftsteller im Urteil der Schüler.** (Pupil's judgment of preparation in studying the classics.) *Zsch.*

f. angew. Psychol., 1928, **30**, 119–149.—Author analyzed the replies of more than a hundred students in the humanistic gymnasia of various German cities to a questionnaire relating to their attitude on the topic of preparation for exercises in the ancient languages, which is usually done by means of dictionary translation. Favorable answers emphasized the advantage of increasing vocabulary and constant practice, or viewed it as a necessary evil. It was noted that these favorable replies came from the same school, that they were given impersonally, and that evidently the indirect suggestions of some influential teacher were operative. The reasons urged against the continuance of this traditional method were the unpleasant feeling-tone of the procedure, its purposelessness and monotony, loss of time, and inadequate grading of the product. Author concludes that the older method is not effective and that work with dictionary and commentary is disastrous. Extemporaneous class translation and the socialized recitation seem to be the remedies.—*A. T. Poffenberger* (Columbia).

2613. **Hoffmann, J. Tachistoskopische Leseleistungen bei Kindern.** (Tachistoscopic reading ability in children.) *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 122–125.—Subjects: 250 children; ages: 7–14 years; stimuli: consonants, meaningless syllables, unfamiliar and familiar words, exposed tachistoscopically; time of exposure: 1 sec. Intellectually superior children made better scores (number of letters correctly reproduced).—*H. Klüver* (Columbia).

2614. **Holy, T. C., & Ruch, G. M. Efficiency of training as affected by the cost of instruction.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. II, 1928, 125–128.—The cost per pupil of operating the school systems of certain Iowa cities showed no significant correlations with the measures of graduates from these school systems upon Part I of the Thorndike Intelligence Examination, the Iowa High School Content Examination, or composite marks earned during the first semester at Iowa State University. The measures of intelligence and achievement correlated significantly, however.—*B. S. Burks* (Stanford).

2615. **Irmina, Sister M. The content and measurement of the reading vocabulary.** *Catholic Univ. Amer., Educ. Res. Bull.*, 1927, **2**, No. 1. Pp. 29.—The meaning of vocabulary is analyzed into three parts: speaking vocabulary, reading vocabulary and writing vocabulary. The reading vocabulary, principally, is considered in this study. The recall vocabulary, tested by ascertaining the number of words which can be defined when presented without context, and the recognition vocabulary, tested by finding the number of words which the individual can define when these words form parts of sentences, are shown to be very different. A summary of studies of size of vocabulary follows, in which the great variation of results is indicated and, in part, explained. The value of the word for the child's use has been ignored in many studies but the more recent contributions of Thorndike (*The Teachers' Word Book*) and Gates (*Reading Vocabulary for the Primary Grades*) calculate carefully the child's need for the words found in their lists. Vocabulary tests, which show the ability of the child to define isolated words, are necessary in the first grade. The Haggerty Visual Vocabulary Scale, stressing the technique of reading, is also important, and the Pressey Group Test is useful for a test of word recognition. "The Holley Sentence Vocabulary Scale and the vocabulary scale included in the Pressey Scale of Attainment No. 2 are more typical of a good reading vocabulary scale. . . . The qualitative vocabulary studies, the Teachers' Word Book and the more recent Reading Vocabulary for Primary Grades, afford excellent opportunity for the ingenious teacher to devise a vocabulary test adapted to the needs of her class. If the words be put into sentences as suggested, the test will help the teacher to form an estimate of the child's reading vocabulary abilities."—*O. L. Bridgman* (California).

2616. **Jaensch, E. Neue Wege der Erziehungslehre und Jugendkunde.**

Zur philosophischen Grundlegung der Pädagogik. (New paths of educational theory and child study. Contribution to the philosophical foundation of pedagogy.) Erfurt: Stenger, 1928. Pp. 48. Rm. 2.—This is the enlarged form of a lecture which the Marburg scholar gave before the fall meeting of the *Akademie gemeinnützer Wissenschaften* in October 1927. The author's fundamental point of view is seen in his conception that the branches of philosophy must first apply themselves to definite fields of work and must use reliable methods applied to definite objects before they may raise their voices in general questions. Jaensch rejects an aprioristic and autocratic theory of categories. He stands for an "idealism of the near-by" since the "idealism of the far-off" is already shaky. He reviews the new development of philosophy as well as it can be done in such a brief discourse. He shows how education and pedagogy are necessarily tied to the fate of idealism. Kant and the Kantians have erroneously represented the ideal as an invasion of the world of the noumenon into the world of the phenomenon. According to Jaensch the existence which is open to experience need not be transcendentalized. He tries to answer the question why the science of reality has so far found no key to the realm of ideals. Only in the case of the integrated man experience of reality and the sphere of the ideal are not separated. Here we see the validity of Goethe's saying: "If you want to go into the infinite, go into all directions in the finite." Since in every man there is a competition of different plans, Jaensch demands an education that is specific for different phases of life. The age of youth has demands different from those of childhood. It remains a fact that in education one can build only from below. The article does not offer all that is promised in the title. For the practical educator it is philosophically too abstract, a fact which does not touch its value, to be sure.—*O. Seeling* (Berlin).

2617. **Jones, L., & Ruch, G. M. Achievement as affected by amount of time spent in study.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. II, 1928, 131–134.—The following subjects participated: 130 unselected freshmen at University of Iowa; 50 freshmen men above the 90th percentile in a composite of four intelligence examinations; 50 men in the 43rd to 56th percentile; 50 men below the 15th percentile. All subjects kept for one week an hour-by-hour study time chart. Measures were obtained of the grade points earned by the men during their first college semester. The group of 50 ranking lowest on intelligence studied an average of 34 hours, while the 50 ranking highest studied an average of 29 hours. But the average of the grade points of the high group was 46, and of the low group, 7. In the group of 130, intelligence and grade points correlated .69, but hours of study and grade points,—.28. The latter value went to zero when intelligence was partialled out.—*B. S. Burks* (Stanford).

2618. **Lauterbach, C. E. Some factors affecting teachers' marks.** *J. Educ. Psychol.*, 1928, **19**, 266–271.—A group of papers in English composition was collected in the usual manner from pupils in Grade VIII. Sixty of these papers were selected at random and copied on the typewriter in every detail just as the pupils had written them. The remaining 120 papers were divided into four groups of 30 papers each, chosen at random, except that each group consisted of 15 papers in longhand and 15 in typewriting. These papers were graded by several teachers until 960 marks were secured on the longhand papers and the same number on the typewritten ones. The median of the typewritten papers was 83.38, of the longhand papers 83.22. As a side issue the general problem of teachers' marks is considered. It was found that the ranking of pupils by teachers gives more reliable results than the absolute marks.—*A. M. Jordan* (North Carolina).

2619. **Lehman, H., & Pressey, L. C. The effectiveness of drill in handwriting to remove specific illegibilities.** *School & Soc.*, 1928, **27**, 546–548.—Each

member of an experimental group consisting of 23 4B children was for 19 half-hour periods given drill directed toward the removal of specific illegibilities in his writing. A parallel or control group for the same length of time practiced handwriting in the usual formal fashion. The writing of the experimental group improved far more than that of the control not only in legibility but also in quality and speed.—*H. L. Koch* (Texas).

2620. **Lewis, M. H. An adventure with children.** New York: Macmillan, 1928. Pp. xii + 250.—Describes the work of one of the first progressive education ventures in the country. It began in 1911 when the author determined to break up as far as possible the "formality and artificiality" of her classroom. She tells how she and the children built up a place where there were "plenty of things which a child can find to do and which need to be done"—from mending a fence and taking care of children to making a snow plow. The school broke up a few years ago during an illness of its founder.—*M. Goodrie* (Clark).

2621. **Margraf, W. Der Wiederholungssatz in der Volksschule auf Grund von Schulbogen.** (The law of repetition as confirmed by public-school records.) *Arch. f. d. ges. Psychol.*, 1927, **60**, 257–316.—Marbe has shown by an analysis of the statistics of accidents that the probability of a given person's experiencing an accident can be estimated from the number of accidents that he has already undergone. Criminal statistics permit a similar inference. These facts are regarded as instances of a general "law of repetition"; Margraf shows that this law applies to the scholastic achievements of public-school pupils. Those winning high marks in the first years of school tend to rank high in the later years. Pupils who are frequently absent in the earlier years tend to be frequently absent in the later years. An increase of a few months in the age at which the child begins school leads on the average to a slight superiority of attainment, and this superiority tends to manifest itself in the later years of school. Variability of achievement is greatest for superior pupils, lowest for inferior pupils. The above results are gathered from an examination of the records of 249 children who were born in the same year and who attended the same public school for seven years.—*D. McL. Purdy* (California).

2622. **McCall, W. A. Comparison of the educational progress of bright pupils in accelerated and in regular classes.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. II, 1928, 121–122.—Summary of a study previously published.—*B. S. Burks* (Stanford).

2623. **Mosher, R. M. A further note on the reliability of reading tests.** *J. Educ. Psychol.*, 1928, **19**, 272–274.—This study is a repetition of the study of Current and Ruch (*J. Educ. Psychol.*, 1926, **17**, 476–481) with a smaller number of pupils and a more contracted range of distribution within the grades. The reading tests considered in both investigations were those of Monroe, Courtis, Thorndike-McCall, Lippincott-Chapman, Haggerty, and the Stanford test. The study confirms Current and Ruch's findings that "probable errors of estimated true scores were computed which showed that certain tests yield errors of measurement nearly twice as large as the best tests available."—*A. M. Jordan* (North Carolina).

2624. **Riechel, A. A classification system for subnormal pupils of junior and senior high-school age.** *J. Educ. Res.*, 1928, **17**, 256–261.—The basis for classification and the practice of handling subnormal pupils of high-school age in the school system at Okmulgee, Okla., is outlined.—*S. W. Fernberger* (Pennsylvania).

2625. **Rigg, M. Some further data on the language handicap.** *J. Educ. Psychol.*, 1928, **19**, 252–256.—From the battery of tests given to children in the survey of the St. Louis schools three were selected for special study in the hope that they might throw light upon the language handicap encountered in taking

mental tests. These tests were (1) the National Intelligence Test, (2) the Woody-McCall Arithmetic Fundamentals, Form 1, and (3) the Thorndike-McCall Reading Test, Form 1. There were a large number of children of foreign-born parents. There is a reliable difference in favor of the children of native parents on the intelligence test, but the children of the foreign-born score a reliable difference on the arithmetic tests. The native group is again ahead in reading. The Jews and Bohemians are approximately at the native level, but the Italian children are not only the lowest in the intelligence tests and reading tests but also in the arithmetic tests.—*A. M. Jordan* (North Carolina).

2626. **Rock, R. T. Reading tests for the primary grades.** *Cath. Univ. Amer., Educ. Res. Bull.*, 1927, **2**, No. 4. Pp. 35.—A preliminary analysis is made of the requirements which satisfactory reading tests for the first two grades should meet. Reading tests should be based first of all on a carefully chosen vocabulary, must test some phase of reading and not incidental abilities as well, must be statistically reliable, must include both norms and standards, must indicate what effect, if any, results from practice, must be objective, and must have sufficient range of application so that there are no zero and no perfect scores. Equivalent forms are important, and the tests should prove so interesting that the child's best efforts will be elicited. These requirements having been explained, a series of reading tests are analyzed as to their ability to satisfy the requirements. Good and bad points are indicated for (1) Courtis Silent Reading Test, No. 2, (2) Detroit Word Recognition Test, (3) Gates Primary Reading Tests, (4) Haggerty Reading Examinations, Sigma I, (5) Los Angeles Primary Reading Tests, (6) Los Angeles Primary Word Recognition Test, (7) Pressey First Grade Reading Test, Attainment Scale Series, (8) Pressey Second Grade Attainment Scale, (9) Pressey-Skeel First Grade Reading Vocabulary Test, (10) Stanford Achievement Test: Reading Examination, and (11) Thorndike-McCall Reading Scale. The Gates Primary Reading Tests are regarded as the "outstanding measuring instruments so far devised." The Stanford Achievement Test is good, but has limited use for the second grade, and the Detroit Word Recognition Test is excellent where no age scores are needed. The other tests are "satisfactory for the purpose for which they were intended," but have a limited usefulness. At the end of the bulletin there is a bibliography and a list indicating sources and prices of the tests discussed.—*O. L. Bridgman* (California).

2627. **Taylor, H. The influence of the teacher on relative class standing in arithmetic fundamentals and reading comprehension.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. II, 1928, 97–110.—Using ratings by school principals and the head of the city research department, the author seeks to evaluate the influence of "teaching ability" upon the achievement of 105 classes (4B to 8A) in nine elementary schools of a medium-sized city. Full data were available for about 19 pupils per class on initial reading and initial arithmetic scores; achievement in reading and arithmetic after one semester, overageness, intelligence (N. I. T.); and "teaching ability" of arithmetic teacher and reading teacher. The measures were combined as class averages in terms of S.D. units of class averages within each half grade. Regression equations for predicting final class achievement in reading and arithmetic from the other variables were computed. "Initial standing" and "intelligence" are the only variables turning out to have much weight in the equations, though the weights found for "teaching ability" are enough to suggest that this cumulative effect of "teaching ability" over 16 semesters instead of one semester may have considerable magnitude.—*B. S. Burks* (Stanford).

2628. **van Wagenen, M. J. Grade placement versus mental age as a factor in school achievement.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. II, 1928, 113-

119.—The author compares the results of achievement tests administered to (1) groups of boys of the same mental age, but two years apart in grade placement, and (2) boys in the same school grade, but two years apart in mental age (by the Terman Group Test). He finds a larger disparity of school achievement in the latter comparison for all the school abilities tested except history information —a subject more emphasized in the higher grades. In reading, the disparity in the second comparison was more than 2½ times as large as in the first comparison, and in the "thought phase" of history the ratio of the disparities was nearly as great.—*B. S. Burks* (Stanford).

2629. **Washburne, C., & Vogel, M. Are any number combinations inherently difficult?** *J. Educ. Res.*, 1928, **17**, 235–255.—The authors gave the Clapp tests to 845 pupils in Grades II–VII in the Winnetka public schools. The results show that certain number combinations are inherently difficult, although this is affected somewhat by the position in the test series.—*S. W. Fernberger* (Pennsylvania).

2630. **Whipple, G. M. How to study effectively.** (2nd ed.) Bloomington: Public School Publishing Company, 1927. Pp. 96.—Such additions, amplifications, and rearrangements as are made in the material of the first edition are not such as to alter the character of the book from that as first published: it still remains a compact, direct presentation of rules (now 64 in place of the original 38), for the immediate understanding and use of high-school and college students.—*E. Swenson* (Clark).

2631. **Whipple, G. M. Exercises in studying; for use with *How to Study Effectively*.** Bloomington: Public School Publishing Company, 1927.—Each of this set of 30 exercises comprises either some questions to be answered or certain directions to be followed for which report of the results is required. The whole set is intended to cause the student in doing them to make a careful analysis of his own study habits, to obtain practice in study under highly controlled conditions intended to make for maximum efficiency, and to come to a very vivid understanding of the rules in *How to Study Effectively*.—*E. Swenson* (Clark).

2632. **Wiley, W. E. Difficult words and the beginner.** *J. Educ. Res.*, 1928, 17, 278–289.—Children, 56 in number, were paired according to their Binet scores. Different methods of teaching were employed. "From this study it would be safe to conclude that the meaning which a word has for a first-grade child is a factor which will greatly influence the difficulty he may have in learning to recognize the word symbol." A list of the confusions which occurred with 60 words is given.—*S. W. Fernberger* (Pennsylvania).

[See also abstracts 2401, 2404, 2462, 2472, 2488, 2583, 2585, 2594, 2598, 2602, 2644, 2645, 2647, 2651.]

BIOMETRY AND STATISTICS

2633. **Barlow, M. C. A learning curve equation as fitted to learning records.** *Psychol. Rev.*, 1928, **35**, 142–160.—By the mathematical justification and use of certain formulae on empirical data the author concludes that he has confirmed the fact that hyperbolic equations furnish a reasonably satisfactory fit to the form of the learning curve. An hyperbolic equation has been fitted to the same set of learning scores by the methods of inspection, averages, and least squares, each of which yields the necessary constants of the hyperbolic equation by following the procedure developed in the mathematical portion of the article. The method of least squares is preferred to the other two. Predicted limits of

training correlate more highly with practical training limits than do any other values used as scores in this investigation. While the learning curve forms under consideration fail to show exact agreement with the forms of the learning curve equation, there is sufficient similarity between them to justify the use of the latter for representing the former in certain mental traits, as multiplication and syllable learning, and for predicting limiting practice achievements from the results of early practice in those traits.—*H. Helson* (Kansas).

2634. **Dodd, S. C. The coefficient of equiproportion as a criterion of hierarchy.** *J. Educ. Psychol.*, 1928, **19**, 217–229.—The proposal is made, jointly with C. Spearman, to use equiproportion rather than tetrad differences as a more convenient method for demonstrating the presence of the two factors. A table of correlations is equiproportional when all its tetrad differences are zero. In practice it is not expected that tables which are strongly equiproportional will have tetrad differences which are zero because of (1) errors of sampling and (2) the presence of group factors. The criterion of equiproportion is that $r_{xy} = r_{xg}\, r_{yg}$, which is derived from $r_{xy.g}$ by assuming it to be equal to zero. The probable error of $r_{xy.g}$ is also stated. The significance ratio is the coefficient of equiproportion divided by the probable error maximum limit (this is $.6745/\sqrt{N}$). For more than four variables the coefficient of equiproportion is more efficient. It is much easier to calculate than the tetrad differences, it provides a measure of the absolute size of the group factor, it identifies the precise pair of variables in which the group factors exist, etc.—*A. M. Jordan* (North Carolina).

2635. **Furfey, P. H. A note on Lefever's "standard deviational ellipse."** *Amer. J. Sociol.*, 1927, **33**, 94–98.—Lefever's method of measuring the dispersion of a geographical distribution does not give an ellipse but a bicircular quartic. As a graphic representation of the form of the distribution it is inadequate because it does not show how the separate units are scattered from the center *in a given direction*. It is also unsatisfactory as an indication of amount of scatter. A more natural extension of the standard deviation to the case where the units are scattered in two dimensions would be to define it as the standard deviation of the distances of the units from the center.—*E. A. Esper* (Washington).

2636. **Lee, A. Supplementary table for determining correlation from tetrachoric groupings.** *Biometrika*, 1927, **19**, 354–404.—This table enables the value of the tetrachoric coefficient of correlation to be found by simple interpolation and without the need of solving a higher order equation for all positive values of r when h and k have the same sign, and for all negative values of r when h and k have different signs.—*L. Ackerson* (Institute for Juvenile Research).

2637. **Newhall, S. M. An interpolation procedure for calculating thresholds.** *Psychol. Rev.*, 1928, **35**, 46–66.—The author's shorter (interpolation) method for determining limens finds justification in a series of experiments in which the limens obtained with his formulae are compared with the limens calculated by the more laborious constant stimulus method. The interpolated limens have about the same order of reliability as those from the constant process and agree with each other as well. Reduction of the number of stimuli from 5 to 3 seems practicable, because the limens from 3 stimuli seem to be of the same order of value and variability as the limens from 5 stimuli. These results, as well as the simplicity of the interpolation process, point to its feasibility for general use.—*H. Helson* (Kansas).

2638. **Thurstone, L. L. The absolute zero in intelligence measurement.** *Psychol. Rev.*, 1928, **35**, 175–197.—With uniform conditions of selection it has been discovered and verified on seven psychological tests that there is a linear relation between the absolute variability and the mean test performance of successive age groups when absolute scaling and not raw scores is used. Absolute zero is located by extrapolating the above linear relation to ascertain the

scale value of the mean performance at which variability vanishes. It is defined as a distance below the mean performance of any age group in terms of its own standard deviation. The following law follows as a necessary inference from the facts stated: with uniform conditions of selection the absolute variability in the test intelligence of different age groups is proportional to their absolute mean test intelligence; or in other words, the relative variability of absolute test intelligence of different age groups is constant. By means of the unit of measurement provided by absolute scaling and the absolute zero it becomes possible to construct a true mental growth curve for a specified mental test. A practical test of the validity of the determination of absolute zero shows that the mental growth curve passes through this point at birth or shortly before; hence test intelligence begins its development at this early age, even though it is not then directly accessible to measurement. The conclusions reached above are based upon mathematical and empirical evidence which is given in the body of the article.—*H. Helson* (Kansas).

2639. **Tryon, R. C. Demonstration of the effect of unreliability of measurement on a difference between groups.** *J. Comp. Psychol.*, 1928, **8**, 1–22.—The author's previous finding that increasing the unreliability of measurement increases the significance of an empirically discovered group-difference is clarified by restatement, by criticisms of the orthodox formula of d/σ_d for the computing the significance of such a difference, and by the presentation of data and computations from an illustrative experiment.—*H. R. Crosland* (Oregon).

2640. **Williams, H. B. Mathematics and the biological sciences.** *Bull. Amer. Math. Soc.*, 1927, 273–293.—The two sections of the *Proceedings of the Royal Society of London* are published as Section A, for mathematical and physical papers, and Section B, for biological material. Notwithstanding this implication, we now recognize that certain biological questions demand mathematics as a research tool. This Gibbs Lecture for 1926 is replete with illustrations where mathematics have brought an important aid to biological investigation. The author discusses what he believes will be the next contribution of statistical methods to biology, and among other questions considers the one of whether new knowledge can be obtained by mathematical processes. The paper contains a wealth of suggestions for the young biologist, and cites a number of references which are probably not known to the usual student of psychobiology. —*W. R. Miles* (Stanford).

2641. **Wood, K. D. Rapid correlation by an empirical method.** *J. Educ. Psychol.*, 1928, **19**, 243–251.—By computing the first quartile, the median, and the third quartile for each of the two variables in a scatter diagram and then erecting lines from these points in the usual way there is obtained a four-fold table which may be used for computing the coefficient of correlation. The most efficient of the methods investigated consisted in subtracting from the sum of the cases in one diagonal the sum of the cases in the opposite diagonal and then dividing the remainder by the number of cases. The quotient is then multiplied by 2.08. The method decreases the amount of time by 50% and works best when the r is from .3 to .6. It should be used only when there are more than 60 cases.—*A. M. Jordan* (North Carolina).

MENTAL TESTS

2642. **Anderson, L. D. The Minnesota Mechanical Ability Tests.** *Person. J.*, 1928, **6**, 473–478.—Descriptions of three tests of mechanical ability which have proved to be highly reliable and valid in predicting success in mechanical shop courses. The first test (Minnesota Assembly Test) is an extension and revision

of the Stenquist Assembly Test; the second (Minnesota Paper Formboard Test) is patterned after one of the parts of the Army Beta test; the third (Spatial Relations Test) is an adaptation of a form board test used by Link.—*A. W. Kornhauser* (Chicago).

2643. **Awaji, Y. Intelligenzprüfung im japanischen Heere.** (Intelligence testing in the Japanese Army.) *Zsch. f. angew. Psychol.*, 1928, **30**, 81–118.—A division of 6000 men (excluding officers) was given a battery of nine tests, similar to the Army Alpha, comprising cube-analysis, tracing, comparison, opposites, immediate memory, substitution, reasoning, motor speed, and geometrical construction tests. Thirty psychologists aided in the testing, which was made by companies. The results coincide to a large extent with the American findings. Comparison of average intelligence scores with previous occupation showed the professional and secretarial groups to rank highest and the agricultural and laboring class lowest. The higher the degree of schooling, the better the performance on the test. Troop classifications showed the signal, engineering, and aviation corps to rank highest and the artillery and cavalry the lowest. The superiority or inferiority of each group is not restricted to one or a few tests, but is evident in all.—*A. T. Poffenberger* (Columbia).

2644. **Beatty, J. D., & Cleeton, G. U. Predicting achievement in college and after graduation.** *Person. J.*, 1928, **6**, 344–351.—90 graduates of the engineering classes of 1923 and 1924 at Carnegie Institute of Technology were chosen as subjects. The authors studied the relationships between the following sets of data, singly and in combination: (1) Results of six psychological tests administered in the fall of 1919, (2) scholastic standing, (3) participation in extra-curricular activities, (4) importance of present position held by the graduate, and (5) yearly salary of graduate. Few significant relationships were found. The following were the only correlations exceeding .30: scholarship with median of all tests, .31, with physics test, .32, and with arithmetic test, .38; scholarship and salary with median of all tests, .32, with physics test, .31, and with arithmetic test, .31; scholarship and position with median of all tests, .36, with physics test, .37, and with arithmetic test, .39.—(From *Person. J.*)

2645. **Burks, B. S. A summary of literature on the determiners of the intelligence quotient and the educational quotient.** *27th Yrbk. Nat. Soc. Stud. Educ.*, Pt. II, 1928, 248–353.—Studies on the nature-nurture problem from the time of Galton to 1927 are briefly abstracted, and critical comments are appended. The arrangement is bibliographical under classified topics. Summary contains 239 abstracts.—*B. S. Burks* (Stanford).

2646. **Clark, E. L. A method of evaluating the units of a test.** *J. Educ. Psychol.*, 1928, **19**, 263–265.—The author proposes a formula for evaluating the units of a test. This is done by (a) computing the percentage of the pupils as a whole who fail to answer the unit under consideration and (b) computing the percentage of the "criterion group" who missed this particular unit. The criterion group is the lowest x per cent of the class. By subtracting (a) from (b) and dividing it by 1—(b) we have the index of validity with which we are concerned.—*A. M. Jordan* (North Carolina).

2647. **Davidson, M. R., & MacPhail, A. H. Psychological testing in a women's college.** *Person. J.*, 1927, **6**, 266–275.—This report covers four years' use of the Brown University Psychological Examination in the women's college of that university. Correlations between test scores and academic work were about .50. The correlation is raised to .70 (one year's data only) by combining test scores and standing in preparatory school. A number of percentage comparisons are given to show what the test relationships signified in the way of practical predictive possibilities.—*A. W. Kornhauser* (Chicago).

2648. **Dodd, S. C. The theory of factors.** *Psychol. Rev.*, 1928, **35**, 211–

234.—Spearman's theory of two factors, Thomson's sampling theory, and the more general theory of specific, group, and general factors are reviewed. The controversies centering about the two-factor theory, points of difference between Thomson and Spearman, places where divergent theories may be reconciled, and the work of Garnett and others are all summarized and more or less order is introduced into what is for the general reader of the subject a welter of facts, theories, mathematical formulae and forbidding terminologies.—*H. Helson* (Kansas).

2649. **Edwards, A. S. Intelligence as the capacity for variability or versatility of response.** *Psychol. Rev.*, 1928, **35**, 198–210.—Various definitions of intelligence are examined and criticized and the author proposes, as the fundamental characteristics of intelligence, variability, flexibility, versatility, plasticity, or resourcefulness, regardless of the goodness or badness, truth or falsity of the results reached. This is supposed to be a view of intelligence that is purely scientific, i.e., neither technological nor philosophical.—*H. Helson* (Kansas).

2650. **Foran, T. G. The constancy of the intelligence quotient; a review.** *Catholic Univ. Amer., Educ. Res. Bull.*, 1926, **1**, No. 10. Pp. 40.—Data and conclusions of investigators as to the problem of the constancy of the intelligence quotient up to date are included in this bulletin. In most of the articles quoted the intelligence quotient has been that obtained with the use of the Stanford Revision of the Binet-Simon tests, although in some cases other revisions, corrected to be comparable with the Stanford tests, have been considered. The methods employed to determine the reliability of the intelligence quotient have been for the most part: (1) correlation; (2) the determination of the mean deviation between pairs of scores; and (3) the determination of the mean of the differences between the pairs of quotients. Variations in the intelligence quotients appear due to three types of causes: (1) causes lying within the nature of the test itself; (2) those due to conditions of administering and scoring; and (3) those which depend on the characteristics of the children themselves. It is concluded after a careful analysis of various studies that the "probable error of a Stanford Binet I.Q. is approximately 5 points under average conditions when all causes of variations are controlled." Approximately 20% of the deviations exceed 10 points. The I.Q. is equally constant for feeble-minded, normal and superior children, though in the last case the constancy cannot be maintained because of the limitations of the test itself. Significant variations may result from the presence of marginal failures and successes, and are greater when different examiners participate. Errors in administering and scoring cause marked fluctuation. Language defects and abnormal conditions in the children are responsible for certain changes in the I.Q. On the whole, it appears that although the I.Q. is surprisingly constant for most children, still the possibility of change must be kept in mind. The author states that the I. Q. alone is not used for diagnostic purposes.—*O. L. Bridgman* (California).

2651. **Freeman, F. S. Influence of educational attainment upon tests of intelligence.** *J. Educ. Psychol.*, 1928, **19**, 230–242.—Burt's experiment is repeated and his conclusions critically examined. There were some extensions. In addition to Burt's reasoning tests, the Binet-Simon tests and school marks, there were used the Dearborn group tests and marks on individual subjects of instruction. The subjects were 77 pupils, all of whom were nine years of age and scattered from Grade II to Grade V. Correlations were then computed between the several variables. For example, the correlation of the Binet test with school marks was .77, while Burt found with the same criterion .72. Burt found the correlation between the Burt test and school work, with the Binet test constant, to be — .07; Freeman finds the corresponding figure to be + .31. The Binet test correlates more highly with school marks than does the Burt

test. The average Burt I.Q. of the group of 77 pupils mentioned above was 89; on the Binet it was 103. The investigation does not confirm Burt's findings that Burt's reasoning test is a test of pure intelligence, or that the Binet scores depend largely on school attainment.—*A. M. Jordan* (North Carolina).

2652. **Henning, H. Das Partner- und Zweipersonen-Experiment.** (The partner- and two-persons-experiment.) *Ber. ü. d. Kongr. f exper. Psychol.*, 1928, **10**, 120–122.—Most aptitude tests developed by technopsychologists are worthless on account of the fact that they do not give us any insight into the character of the testee. The experimenter should do more than give instructions and assume a passive rôle. When it comes to testing character traits he, or another subject, must play the carefully worked out rôle of a partner. For such kind of experimentation, 25 pieces of apparatus and experimental procedures are being standardized in Danzig.—*H. Klüver* (Columbia).

2653. **Pearson, K., & Moul, M. The mathematics of intelligence. I. The sampling errors in the theory of a generalized factor.** *Biometrika*, 1927, **19**, 246–291.—A critical analysis is made of the Spearman-Holzinger method of "tetrad differences." It is objected that the vanishing of the mean tetrad is no proof whatever of the individual tetrads' being zero or small since the sum of the triplets of a series of intercorrelations between any four variates if taken in cyclical order must necessarily be zero, and upon any large series of intercorrelations the mean value of the tetrads must approximate zero if they are taken in random order. Formulae are derived for the variability of a tetrad and for the probable error of a mean square tetrad. It is shown that the frequency distribution of the tetrad differences in the Spearman-Holzinger articles cannot be considered normal by the (P-(Chi)^2) test for goodness of fit. It is objected further that these authors have asserted the approximate equality of certain theoretical and observed results without taking into consideration the probable errors of their differences. "Yet while very seriously doubting the validity of the arguments, both the accordance said to exist between theory and observation and the mathematical treatment of Professor Spearman, we believe that the hypothesis of a general factor should be further tested on new material. The nature of the non-overlapping mental abilities should be selected by psychological consensus before the tests are made, the number of persons tested should be far greater . . . , and if possible a more adequate mathematical theory of the whole subject developed."—*L. Ackerson* (Institute for Juvenile Research).

2654. **Piéron, H. Le problème de l'intelligence.** (The problem of intelligence.) *Scientia*, 1927, **42**, 337–348.—A resumé of various definitions of intelligence and points of view from which intelligence may be considered, followed by the conclusion that, although intelligence has a practical reality and the testing of intelligence is a very important social problem, intelligence has no theoretical entity—it is but an *ensemble* of functions.—*R. G. Sherwood* (Stillwater, Minn.)

2655. **Reymert, M. L. Kvalitative faktorer i mental-maalninger.** (Qualitative factors in mental measurements.) *Ark. f. psykol. o. ped.*, 1928, **7**, 27-39.—On the basis of his standardization work in Norway with Terman's Stanford revision of the Binet-Simon tests and the American Army Alpha, and referring also to some of his own work in pure child psychology as well as to modern test literature, the writer suggests the necessity of more *qualitative* evaluation of test scores. It appears that not less than 7 different kinds of mental procedures of a highly different value (from the point of view of prediction) may be used by various subjects, all of whom, however, may obtain the same quantitative score in a certain test. While full credit is given to all the valuable work in mental testing and while the importance of statistical refinement is frankly admitted, the fear is expressed that continued neglect of the qualitative aspect may result in too

much mechanization of the highly complex material under measurement.—*T. Pihlblad* (Wittenberg).

2656. **Richards, O. W. Saving time in testing.** *Person. J.*, 1927, **6**, 281–282.—The Otis General Intelligence Examination was given to 319 normal adults (college students and probation nurses) and scores obtained with a 15 minute and a 30 minute time limit. The correlation between the two was .84. The reliability of the 15 minute scores was .74 and that of the 30 minute scores .85. Tables are given for conversion of scores from one time limit to the other.—(From *Person. J.*)

2657. **Rogers, A. L., Durling, D., & McBride, K. The constancy of the I.Q. and the training of examiners.** *J. Educ. Psychol.*, 1928, **19**, 257–262.—The authors report a study of the constancy of the I.Q. when those giving the tests have had instruction both in theoretical psychology and in the use of the manual but no practical experience in testing. The children were all from homes classified as average to good. The correlation of I.Q.'s between the two schools was .75 for one and .69 for the other. This might be compared with results of trained examiners of .84 to .95. The middle 50% of changes in I.Q. ranged from — 6 to + 6, while Terman found that his middle 50% ranged from — 3.3 to + 4.5.—*A. M. Jordan* (North Carolina).

2658. **Rondelli, U. Sul valore psicometrico dei giuochi infantili.** (On the mental testing value of children's games.) *Arch. di antrop. crim.*, 1928, **48**, 18–29.—To estimate the mental testing value of children's games, the author experimented on a few hundred children with a "game of patience" which involved moving a box with such precision that the three little balls within would enter their respective holes. Accuracy in movement, as determined by the time for completing the game, increased with age. Patience and volitional strength, determined by the number of abandonments of the game, was found to be greater in older than in younger children and greater in boys than in girls of equal age. Children with greater ability learned more quickly but further practice brought no improvement.—*R. E. Schwarz* (George Washington University).

2659. **Stern, W. Zur Theorie der Intelligenz.** (On the theory of intelligence). *Ber. ü. d. Kongr. f. exper. Psychol.*, 1928, **10**, 170–171.—Intelligence is neither a general uniform ability nor a summation of different abilities. Conscious thought processes cannot be considered as the only manifestation of intelligence. On the contrary, thought processes are expedients serviceable to the "adjustment-capacity" of the person. Stern's definition of intelligence runs as follows: "Intelligence is the ability to adjust oneself to new situations, making the proper use of one's thinking capacity." Not only the person who does not think enough but also the person who thinks too much may be unintelligent. It is not surprising that the correlations between intelligence tests and tests of "practical" as well as of "gnostic" intelligence are not very high.—*H. Klüver* (Columbia).

2660. **Stoy, E. G. Additional tests for mechanical drawing aptitude.** *Person. J.*, 1928, **6**, 361–366.—Results from a first series of preliminary tests were earlier reported (II: 816). Fifteen other tests were used in the present study. Two groups of students were selected from high school mechanical drawing courses—a group of 25 "most promising students" and a group of 25 "least promising." The groups were chosen on the basis of teachers' estimates and grades on a mechanical drawing test. In 8 of the 15 tests the difference in means between the two groups exceeded three times the error of the difference.—*A. W. Kornhauser* (Chicago).

2661. **Uhrbrock, R. S. An analysis of the Downey Will-Temperament Tests.** *Teach. Coll. Contrib. Educ.*, 1928, No. 296. Pp. vii + 78.—A history of the tests in question is followed by a study of 151 junior high school boys, the data

from these being used to determine reliabilities for the sub-tests of the Downey Group Will-Temperament Test, the Carnegie Adaptation of this test, and of the Non-Verbal Will-Temperament Test. These vary widely. The cross-correlations for test parts in the individual test and the group tests bearing the same name were found not to indicate similarity of functions tested. A general criterion for speed of movement was established on the basis of a battery of 12 separate measures to determine the extent to which the specific tests in the will-temperament series may be measures of general functions. The data "indicate that no single speed test may be taken as an adequate representation of the general function." Correlations of will-temperament sub-test scores and ratings, intelligence, and school marks were found to be negative or low. If rating results are the criterion, " there is little evidence that the tests are named correctly . . . . There is evidence that the reliability of some of the tests may be increased considerably." A description of the Non-Verbal Will-Temperament Test and an exhaustive bibliography of 93 titles are appended.—*H. H. Remmers* (Purdue).

2662. **Witty, P. A., & Lehman, H. C. Ability *versus* effective ability.** *Psychol. Rev.*, 1928, **35**, 67–86.—Ability is not identical with effective ability. The fruits of genius are a function of no less than three variables, ability, drive, and opportunity, the last two being the determiners of effective ability. The nature, origins and other factors causing drive are critically discussed.—*H. Helson* (Kansas).

[See also abstracts 2401, 2462, 2472, 2578, 2588, 2597, 2608, 2613, 2622, 2625, 2628, 2638.]